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政治排斥女性？或女性排斥政治？——女性青少年權力意識、政治興趣、政治偏好、政治活動及相關因素之研究(I) 研究成果報告(精簡版)

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政治排斥女性？或女性排斥政治？

──女性青少年權力意識、政治興趣、政治偏好、政治活動及相關因素之研究(I)

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摘 要

　　從古至今，從國內到國外，除了極少數案例之外，政治幾乎都被男性所支配。本研究之主要目的在探討青少年政治社會化歷程，分析青少年男女生在父母與同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母與同儕政治意識形態之差異；青少年在國中、高中與高職不同學習階段其父母與同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母與同儕政治意識形態之差異；以及整體青少年及男女生在青少年政治社會歷程中各主要變項所建構之理論模式之適配度。本研究之研究樣本共有國中、高中與高職學生共 1,501 人，經施以六份自編之量表：（一）父母與同儕政治價值觀與意識形態量表；（二）青少年權力意識量表；（三）青少年政治興趣量表；（四）青少年政治偏好量表；（五）青少年政治活動量表；（六）青少年父母與同儕政治意識形態量表。所得資料再以 t 考驗、變異數分析，以及結構方程模式(SEM)做分析。本研究有下列的主要發現：（一）男女青少年在父母與同儕政治價值觀、政治偏好、政治活動、父母政治意識形態得分上有顯著差異，男生得分顯著高於女生，但在權力意識與政治興趣上並無性別差異。（二）國中、高中與高職不同學習階段之受試者其父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母政治意識形態均有極顯著差異，高中學生得分高於高職學生與國中學生。（三）全部青少年樣本其政治社會化模式符合基本適配標準。（四）男性青少年政治社會化模式的模式適配度指數雖有二項未達適配標準，但其餘數值均達到統計檢定量適配的臨界值，顯示男性青少年政治社會化模式具有尚佳的外在品質，能解釋影響青少年男性政治社會化相關因素的觀察資料。（五）女性青少年政治社會化模式的模式適配度指數雖有三項未達適配標準，但其餘數值均達到統計檢定量適配的臨界值，顯示女性青少年政治社會化模式具有尚佳的外在品質，能解釋影響女性青少年政治社會化相關因素的觀察資料。整體而言，本研究所探討與分析之影響青少年政治社會化歷程之重要變項具有解釋與參考價值。

關鍵詞：女性青少年、政治排斥女性、政治社會化、權力意識、政治活動

Politics Excludes Females, or Females Exclude Politics?
——Sense of Power, Political Interest, Political Preference, and Political Activities and Related Factors of Female Adolescents

Abstract

Men dominating politics is a phenomenon cross old age to modern society and around the world. The main purpose of the study is to explore the process of political socialization of adolescents, to analyze political values of parents and peers, sense of power, political interest, political preference, political activities, and political ideology of parents and peers of adolescents. Subjects of 1,501 students of middle and high schools are sampled. They are administrated by six scales, including Inventory of Political Values of Parents and Peers, Inventory of Sense of Power, Inventory of Political Interest, Inventory of Political Preference, Inventory of Political Activities, and Inventory of Political Ideology of Parents and Peers. Statistical methods, including t-test, ANOVA, and SEM are used in this study. The main results are as follows: There are significant sex differences in political values of parents and peers, political preference, political activities, and political ideology of parents and peers of adolescents except sense of power, political interest. They are extremely significant differences in political values of parents and peers, sense of power, political interest, political preference, political activities, and political ideology of parents and peers among middle, high school and vocational high school students. Theoretical model concerning political socialization of total sample of adolescents in this study shows well constructed. Separate theoretical models concerning political socialization of male and female adolescents are partially not fitted. However, two separate theoretical models can still well explain the main variables proposed by the study.

Keywords: **female adolescents, politics excludes females, political socialization, sense of power, political activities**

壹、緒論

從古至今，從國內到國外，除了極少數案例之外，政治幾乎都被男性所支配。Mayer & Schmidt (2004)就指出，儘管世界各國的政治體系、文化、宗教、家庭價值觀、國家現代化程度差異極大，但是男人支配政治的現象（Men dominate politics）並無不同。近幾年來，女性權利意識高漲，女權運動也在世界各國推展，女性在甚多領域有重要與具關鍵性的貢獻，甚至「女性撐起半邊天」（Women hold up half of the sky）（Ai, 2000），但唯獨在政治領域，雖然女性從政者日漸增多，但女性在政治上依然極端弱勢，甚至依賴「女性保障名額」從政，或「被男性所迫」從政，或「延續家族政治生命」從政，因而在女性在政治上仍處於從屬地位，往往被男性當作「政治花瓶」而已。根據「國際民主與選舉協助研究所」（International Institute for Democracy and Electoral Assistance, 2007）的報告指出，全球女性在議會的政治參與度只有16%，遙遙落後男性。也因此，「為何男性支配政治？」「為何女性從政者少？」「為何女性對政治較不感興趣？」「為何女性對政治冷漠？」「為何政治排斥女性？」或「為何女性排斥政治？」等課題就值得關注。事實上，政治就是眾人事務的管理，在青少年階段如果有良好的政治社會化發展，將有助於青少年，尤其是女性青少年未來在政治事務上的積極參與，並可能領導社會改革，促進社會發展。但國內此方面的研究仍付闕如，十分可惜。

黃德祥(2003)曾指出，「政治社會化」（political socialization）係指個人受父母、老師、同儕、大眾傳播等社會化因子所影響而形成個人政治態度、價值與行為的歷程。然而不同社會或家庭之中，對於政治常有不同的價值觀與定見。成人通常存有特定政治意識型態(political ideology)，對政黨也會有個人好惡，此種政治偏好進而影響兒童與青少年。青少年男性與女性的政治價值、態度與行為都是經由學習而來，青少年的政治社會化就是青少年男女學習政治價值、態度與行為的歷程（黃德祥, 1994; 2003）。基本上，青少年男生與女生在中小學階段所受的學校教育內容相同，但為何後來會形成男性支配政治的現象？青少年階段可能就是男生與女生權力意識、政治興趣、政治偏好、政治活動分化的關鍵階段，但其作用因子與影響歷程為何，仍有待探究。

青少年階段是個體成長與社會化的最重要階段，生理成熟的同時，父母、師長與社會的期待也同時改變，青少年必須學習成人社會所需具備的知識、技能與角色行為，才能順利地進入成人社會中。社會化乃是個體學習有效的參與社會所需具備的知識與技能，並能表現適當行為的歷程（黃德祥, 2003）。一個人初到人間，首先接觸父母與手足，此後，自家庭開始擴展其生活範圍，隨著年歲的增長，接觸的範圍不斷擴大到鄰居、友伴、同學、老師，甚至於社會上廣大的人群，個體一方面接受社會環境的刺激，一方面依照社會所規定的種種行為方式作適當反應。青少年的社會化是個體與環境複雜交互作用的歷程，青少年在此時期受到父母、師長、同儕、社會環境的壓力與約束，逐漸學到以社會期望的方式來表現行

為。

　　青少年的社會化具有五項特徵：(一)青少年的社會化是一種學習的歷程；(二)社會化反映了文化的期望與刻板印象；(三)社會化是個人行為與社會依個人年齡、性別、社會狀況等所期望之行為間的交互作用歷程；(四)不同文化與不同世代間的文化期望有差異存在；(五)社會化是一個複雜的歷程。青少年時期同時也是個體對自我及社會各方面敏銳感應的時期（a sensitive period），青少年會重新思辨自我的價值體系、人我關係，也會重新思考與認定自己的身分地位，對於有關眾人之事的政治事務或活動的相關政治信念體系（political belief system），也會積極去塑造或建構，這是達成青少年期之發展任務（developmental tasks）的重要歷程（黃德祥, 2003; Aries, 2001; Kuhn, 2004; Santrock, 2005）。

　　個人政治社會化發生的時間甚早，在兒童期階段，政治社會化就已經開始進行，三、四歲初懂事的兒童就已經開始由父母的政治活動，如投票，或在大眾傳播媒體中，認識重要的政治人物，如總統、市長等。在學齡階段，兒童也會對自己的身世背景，有基本的認識，如自己居住的地方、父母是本省人、外省人，是藍是綠，在種族複雜的地方，兒童並開始以膚色辨認人我差異。在學前階段兒童基本上尚不能分辨政黨的差異。依照年齡來看，青少年的政治社會化發展有下列的特徵：(一)青少年之前，兒童仍無法對政治事務有高度的個人化思考能力，政治活動的社會作用仍不被關切。(二)進入青少年期以後，青少年開始具有政府的具體概念，並有較高的個人政治思考。(三)15 歲以後的青少年才能思考政治活動的長期目標與效果。(四)青少年階段對權威人物的依賴仍重，期望英雄或權威人物出來解決社會問題，尚無法充分考慮社會的複雜性。另有學者研究日本高中及大學生的政治態度，結果發現：(一)儘管年齡愈大，政治知識愈豐富，但愈年輕的青少年對政治愈會採取保守的立場。(二)大學二年級以上政治知識與政治激進主義者會顯著增多，此後政治立場即維持穩定。(三)政治取向的因素結構，不會受到個人發展階段的影響（黃德祥, 2003; Evans, 2007）。青少年階段既然是政治社會化的關鍵時期，家庭、學校與社會如果能充分瞭解青少年的政治發展過程，鼓勵女生提升權力意識，增進政治興趣，多參與政治活動，將有助於兩性在政治上的平權共治，促進社會進步。此外，由於台灣政治環境特殊，各種政治紛擾不斷，女性所特有的愛、關懷、接納、尊重的母性特質如果能融入政治之中，也許能讓台灣的政治環境撥雲見日。

　　然而不幸的是，社會上不只給予男性較多權力而且強化男性的權力，更對女性的權力具有諸多的限制(Groshev, 2002)。權力的追求與政治企圖有關，女性對政治較冷淡可能與其權力意識較低有關。權力意識(sense of power)簡而言之，就是一個人可以控制自己未來的知覺。女性對權力的定義和傳統社會學對權力的定義並不同，甚至與傳統的權力定義相衝突。Groshev(2002)以俄羅斯女性為研究對象發現，女生認為權力是完全的自主能力(complete autonomy)及自我管理(self-management)，女性對權力的想法是個人的影響力而不是控制，大多數女性拒絕控制某人的想法，不喜歡宰制他人(concession)。女性對於權力的解釋明顯與

男性不同，女性相信權力可以分享，運用權力也是好事，男性則強調強制性與支配性。此外，女性對權力的企求似乎明顯低於男性，使女性要進入男女平等的政治領域仍頗遙遠。一般而言，女性較男生對政治活動較為冷漠，羅基緁(2007)以台灣青少年為研究對象，結果亦顯示，女性青少年對政治活動的參與較為冷漠，甚至排斥。其原因何在？是女生欠缺權力意識？是忙於功課業？還是忙於化妝、交友、談戀愛、追逐偶像、八卦消息，而漠視政治？或父母、同儕不鼓勵女生談論政治、關心政治？均值得加以探究。

權力意識是個人政治社會化的結果。一個人主觀的權力意識對行為的影響力往往大於實際支配權力的能力(Smith, Wigboldus, & Dijksterhuis, 2007)，權力意識發生在日常的生活情況之中，個人權力感可能是有意識的覺知，有時是以在無意識的情況下被提醒(Anderson & Galinsky, 2006)。Smith, Wigboldus, & Dijksterhuis(2007)認為，權力和抽象訊息往往伴隨而生，抽象的(abstract)思考比具體的思考(concrete)較少受到壓抑，權力帶領讓人們更多的抽象思考，經以實驗研究法進行權力意識與思考風格的研究，結果發現抽象思考會產生較多的權力意識，抽象思考並使人較偏好富較高權力的角色，產生更多對環境的控制感。如較具權力意識者對冒險行為具有較大容忍和偏好(Anderson & Galinsky, 2006)，同時可以增加目標導向的活動 (Anderson, Keltner, & Gruenfeld, 2003)。Anderson & Galinsky(2006)提出，權力意識會透過樂觀知覺影響個人的冒險行為，不受避免出風頭的自我效能信念(self-efficacy)所影響。但是當高權力感的人感到有責任感時，影響力會被稀釋，但 Anderson & Galinsky 同時指出，缺乏權力意識會產生更多的冒險行為。低度權力感的人會有更多的尋求冒險的行為，因為他們願意做可以幫助他們改變不利地位的事情。低度權力感的人在冒險行為中比較不必害怕失去什麼，相對的，高度權力感的人害怕失去他們所擁有的，所以行為會比較保守。權力意識會影響個人對行為意義的解讀，並且可以進而預測個人未來行為的方向，當權力意識被刺激的時候，相關的行為傾向(behavioral tendency)和概念也會被刺激(Anderson & Galinsky, 2006)。權力意識與政治活動密切相關，基於此，本研究乃以女性的權力意識當作探討女性排斥政治或政治排斥女性的重要變項。

就青少年而言，政治興趣是指運用各種媒體瞭解政治事務，進而與人討論，產生關心生活世界之行為。報紙、電視是傳統的政治媒體，網路則是新興強勢媒體，一般而言，學生很容易就可以得到政治新聞資訊。對青少年而言，電視和廣播是獲得資訊的主要來源。國內新聞談話性節目、電視政治 call in 節目與其他國家相較，擁有較高的收視率。但女性青少年是否也常收視新聞談話性節目、電視政治 call in 節目或看報紙政治新聞？則尚待實徵性探討。

青少年男女目前依賴網路甚深，當前網路上的政治訊息對青少年政治社會化歷程的影響，在國際學術研究上，未來會是一個廣受關注的領域。Quan-Haase & Wellman(2002)認為網路的線上接觸，增加了面對面與電話接觸的頻率，藉此，

線上的活動增加了志願參與及政治參與的機會，網路與個人日常生活若相結合會增加個人社會資本及活動和地理空間上的廣度。Uslaner(2004)指出，網路使用者在社會上並不孤立，和不用網路的人相比，使用網路的人有些許較寬廣的人際互動的社會圈(social circles)，但是對陌生人而言，比較不會具有信任感，他們會在網上和認識的人大量溝通，但對網路上的人會有些許的防衛，他們對網路購物較開放，比較不相信個人的隱私會在網上遭洩露。但他們在網上也比較不會有認同感，在網路上社會關係的連結並沒有被強化，有些聊天室的成員有證據顯示是相互不信任的。Gillmor(2004)認為在部落格（Blog）興起之後，一般普羅大眾，不再只是閱讀資訊，而是可以以自己的方式創造新聞。個人可以透過部落格網誌發佈新聞，可以對特定議題做實況報導，經過網站經營者開放，更可以讓讀者張貼個人意見，進行參與討論，新一代的手機附有照相的功能，被視為新聞一部分的相片，由媒體掌控新聞的時代將過去，影像訊息可以在個人網站上被報導，散佈新聞消息不再只能依賴大量的印刷媒體，財源不足的非營利性組織更可以藉由部落格散播自己的理念。也因此，媒體（含傳統與新興媒體）對青少年政治社會化的影響需要有更多實徵性資料作佐證，本研究即具有此種功能。

　　女性青少年的政治偏好也值得關注，青少年的政治偏好與父母極為相似，包括政黨傾向、政治人物好惡、候選人選擇與投票行為。因為父母是青少年政治社會化最重要的影響因子（黃德祥, 2003）。青少年在學校生活中，產生的人際關係與社會網絡也會影響其政治偏好與興趣，如說服別人贊成自己偏好之政治決定。影響青少年做決定最重要因素是「互為好友」的談話內容，青少年透過朋友、國中小同學、鄰居產生人際關係，建立社會網絡。人際關係與社會脈絡的聯結往往會影公民的政治參與。青少年所面對的政治事務較成人世界單純，同儕之間的交談往往會影響個人對政治事件的看法，與社會脈絡相連結，直接或間接影響青少年的政治參與。

　　在政治活動方面，Hahn(1999)指出，青少年如果有過政治性質競爭的經驗，會具有較高的政治興趣，學校課程如果包涵政治教育，學生對公共事務會比較有興趣。學生或多或少對政治事務會有「涉入感」（sense of involvement）。具有政治參與、關切政治事務的心理傾向，對政治事務興趣較高者透過政治事務處理的過程，說服同儕，影響同儕的政治決定。在學校，影響對行政單位、老師順從或抗拒的政治態度。班級教室也是具體而微的政治環境，於班級幹部的選舉中，決定的因素不是學業成就，而是同儕之間的人際關係。在成人社會中，政治參與就是進入決策體系中，參與作決定的歷程。在民主社會中透過選舉參與政治是主要進入決策體系的途徑。然而有證據顯示，女性對政治的排斥現象仍相當明顯，其因果關係何在？相關的學術研究與實務改進都有待加強。

　　綜上所述，青少年的權力意識、政治興趣、政治偏好與政治活動等都與青少

年的政治社會化有密切關聯，倘青少年有較佳的政治信念體系，也有較正向的政治參與意圖，將會對個體與未來社會發展有積極的影響。更何況青少年就是明日國家社會的主人翁，在教育學術研究上，有必要對青少年的政治社會化歷程及相關政治課題，加以探究。

　　本研究將分三年進行，第一年之研究試圖由青少年「政治社會化」的歷程切入，探討青少年的政治發展過程，首先分析男性與女性青少年的權力意識（sense of power）、政治興趣（political interest）、政治偏好（political preference）與政治活動（political activities）之差異，及其相關影響變項之作用，如父母與同儕的政治價值觀之影響。再進而建構男性與女性青少年之政治社會化相關影響變項之模型。本研究第一年之研究假設有下列各項：（一）不同性別之青少年在父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母與同儕意識型態各量表得分之總分上均有顯著差異。（二）國中、高中與高職之學生在父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母與同儕意識型態各量表得分之總分均有顯著差異。（三）男性與女性之父母政治價值觀、同儕政治價值觀、青少年權力意識、政治興趣、政治偏好、政治活動、父母與同儕意識形態等主要變項所建構的結構方程模式（Structural Equation Modeling; SEM），具有顯著適配度。具體而言，本研究目的在於探討台灣男性與女性青少年在權力意識、政治興趣、政治偏好與政治參與的差異，考驗女性青少年權力意識、政治興趣、政治偏好與政治活動的因果關係模型，做為分析「政治排斥女性」或「女性排斥政治」之議題的參考。

貳、方法

一、研究對象

　　本研究之主要目的在於探討台灣男性與女性青少年在政治社會化各主要變項上之差異，以及相關重要變項之關聯與因果關係，因此本研究以台灣地區的國高中學生為母群體，以方便取樣的方法共抽取 2,000 人為研究對象。經仔細檢視各問卷填答結果，共獲得有效問卷共 1,501 人，其中男生 662 人，女生 839 人，國中 206 人，高中 538 人，高職 756 人。取樣學校計有北中南各主要高中職及國中共 21 校，分別是大同國中、伸港國中、明倫國中、光榮國中、鹿鳴國中、溪湖國中、北斗國中、桃園國中、八德國中、安平國中、培英國中、花蓮女中、新豐高中、大里高中、中崙高中、員林高中、彰化女中、西螺農工、大甲高工、屏東高工、大慶商工。表 1 係本研究調查有效樣本之受試者性別與年級資料。

表 1

本研究調查正式樣本之受試者性別與年級人數

變項	男性		女性		合計	
	N	%	N	%	n	%
國中	81	12.1%	126	15.0%	206	13.7%
高中	239	36.2%	299	35.6%	538	35.9%
高職	342	51.7%	414	49.3%	756	50.4%
合計	662	44.1%	839	55.9%	1501	100.0%

　　由表 1 中可見本研究正式樣本之性別與國高中之樣本人數大致適中（$\chi^2 = 2.736, p > .05$）。

二、評量工具

　　本研究為達成研究目的，乃根據相關理論編製量表，計有（一）父母與同儕政治價值觀與意識形態量表；（二）青少年權力意識量表；（三）青少年政治興趣量表；（四）青少年政治偏好量表；（五）青少年政治活動量表；（六）青少年父母與同儕政治意識形態量表。另有基本資料調查表，調查青少年在班上的功課表現、班上的人緣、對台灣現有政黨好感程度、對台灣與中國大陸協商統一的態度、對台灣進行獨立建國的態度，以及對台灣與中國大陸之關係的看法等。預試青少年共有 405 人，取樣學校有南投高商、大里高中、和群國中、龍津國中、溪湖國中、大同國中。其中男生 182 人，女生 221 人。本研究各項量表均經預試程序編製完成，包括試題項目分析、信度考驗與因素分析。各量表主要預試資料如下：

（一）　父母與同儕政治價值觀量表：

　　本量表參考 Evans & Heath (1995)、Mayer & Schmidt (2004)、Muhlberger (2002)

等學者的建構概念及評量表,設計「父母與同儕政治價值觀量表」,相關題項有:我爸爸鼓勵我未來從政;我媽媽鼓勵我未來從政;我經常與父母討論政治問題;我的父母對政治不關心(*);我的父母認為政治很可怕(*);我的父母認為政治可以促進社會進步;我們在家裡不看電視政治談話節目(*);我們家很少去投票(*);我們家不關心選舉誰當選(*);我們從不參與競選活動(*);我父母對政治非常敏銳;我父母希望我像政治人物看齊;我們家經常一起看報紙政治消息;我們家經常收看電視政治消息;我們家經常一起收聽政治消息廣播;我同學鼓勵我未來從政;我經常與朋友(同學)討論政治問題;我的朋友(同學)政治不關心(*);我的朋友(同學)認為政治很可怕(*);我的朋友(同學)不看政治談話節目(*);我的朋友(同學)不關心選舉誰當選(*);我的朋友(同學)從不參與競選活動(*);我的朋友(同學)對政治非常敏銳;我的朋友(同學)希望我像政治人物看齊;我的朋友(同學)經常一起看報紙政治消息;我的朋友(同學)經常收看電視政治消息;我的朋友(同學)經常一起收聽政治消息廣播;我的朋友(同學)經常上網瀏覽政治消息。(*)為反項題目。本量表以「是」「否」作答,得分愈高,表示父母與同儕對政治愈持積極價值觀。

(二) 青少年權力意識量表:

本量表參考 Anderson & Galinsky (2006)、Anderson , Keltner, & Gruenfeld, (2003)、Anderson, John, & Keltner (2005)、Carli, (1999)、Groshev (2002)等學者對權力意識的建構概念及評量表,將編製「青少年權力意識量表」(Sense of Power Inventory),相關題目有:我覺得,我可以讓別人聽我說話;我覺得我的願望微不足道;我覺得我可以讓別人為我做事;我覺得即使我說出我的意見,我依然沒有把握;我想我有很大的權力;我覺得,我的想法和意見經常被忽視;只要我想,我就可以自己作決定;我會敏銳的去察覺誰的權力最大;我很想影響別人;權力是我追求的目標;誰說話受重視,就是有權力的人;我希望別人照我的話去做;我想我可以改造社會等。將以 Likert 七點量尺記分,得分愈高,表示權力意識愈高。預期建構性因素有自主決定(Autonomic decision making)與言論重視(Speech emphasis)。本研究新編量表均進行因素分析,以驗證其建構性效度。所得因素經命名為「自主決定」、「言論重視」、「認知風格」、「情緒支持」、「組織信任」。

(三) 青少年政治興趣量表:

本量表參考 Hooghe & Stolle(2004)、Lauglo & Øia (2006)、Mayer & Schmidt (2004)、Smith (1999) 等學者對權力意識的建構概念及評量表,將編製「青少年政治興趣量表」(Inventory of Political Interest of Adolescents)。相關題目有我會在網路上和別人聊有關政治的事情;我和朋友聊天的時候,常常談論政治方面的事情;我會用「即時通」或「msn」和同學聊國家大事;我會遊說別人投票給某人當班長;我會說服朋友支持我喜歡的政黨等(初編量表如附錄3)。預期建構性因素有媒體涉入(Media involvement)、政治討論(Political discussion)與政治關

心（Political concern）。本量表同樣以 Likert 七點量尺記分，得分愈高，表示政治興趣愈高。經因素分析結果本量表共有三個主要因素，分別命名為「媒體涉入」、「政治討論」、「政治關心」。

（四） 青少年政治偏好量表：

本量表將參考 Evans & Heath (1995)、Pettersson (2003)、Kuhn (2004)等人有關青少年政治偏好建構概念及評量表，試著編製「青少年政治偏好量表」（Inventory of Political Preference of Adolescents），主要題項有：我喜歡有創意的政黨；我喜愛維持傳統的政黨；我偏好能保留核心價值的政黨；我喜歡英俊（漂亮）的候選人；我會投票給能言善道的候選人；我會說服別人支持我喜歡的候選人；我會為我喜歡的候選人做義工；我會捐款給候選人；我會經常瀏覽我支持的候選人網站；我喜歡有風度的候選人；我偏好能敢於衝撞的候選人；我喜歡能抗爭的候選人；我反對有不良紀錄的候選人；我經常關注選舉的消息；我希望選舉能帶給社會進步的希望；我對政治冷漠（*）；我討厭政治（*）；我對政治人物都很失望（*）；我喜歡激進的候選人；我喜歡有具體政見的候選人；我對未來的政治不抱希望（*）等。（*）代表反向題。本量表預期的構念向度是候選人喜好（Preferred candidates ）、政治熱衷（Political enthusiasm）、政治期望（Political expectation）。預試所得資料經因素分析結果共有八個因素，分別命名為「對戰爭的態度」、「貿易保護」、「國家角色」、「工作機會」、「社會福利」、「政黨偏好」、「財富的分配」、「領導魅力」。

（五） 青少年政治活動量表：

本量表的建構性因素有政治行動主義（Political activism）、抗議行為（Protest activities）、代表的參與（Representative participation）。研究者依據徐火炎（2006）、Torney-Purta & Richardson(2002)及 Lauglo & Øia(2006)的分類，參考先前文獻，試著編製「青少年政治偏好量表」（Inventory of Political Preference of Adolescents），主要題項有：我曾經投稿表達我對政治事件的看法；我會主動要求學校改進應做的事情；如果可以的話，我願意投票選舉總統；我有自己的政治理念；未來我會追求我的政治理想；我會向導師反應班規不合理的地方；我會聽政黨的意見，決定對政治事務的看法；我曾經幫參加選舉的人募款；我找過老師表達我覺得學校不對的做法；我參加過選舉時的政見發表會；我會找同學一起向學校爭取權利；如果可以的話，我願意參加政黨；我找過校長抗議不合理的規定；午餐菜色不好，我會向學校抗議；學校如舉辦學生會長選舉或模範生選舉時我會去投票；我會向上課老師反應，老師應該改變的事情我找過政治人物或公務人員表達我的看法；我寫過請願書給學校或政府機關表達我的意見；我會向教育部(局)投訴學校不合理的事情；我運動會裁判判決不公平，我會向學校抗議參加過示威遊行；我參加過政黨舉辦的活動；我曾簽過名，表達意見的連署；我參加過政治集會或造勢活動；我會在網路上投訴學校不合理的事情；我會寫 E-mail 給政府單位，抗議對學校不滿的地方；我曾經對學校服裝儀容的規定，表達抗議。本量表同樣以 Likert 七點量尺記分，得分愈高，表示政治活動力愈強。預試所得

資料經因素分析結果命名為：「抗議行為」、「政治行動主義」、「代表的參與」。

（六）父母與同儕政治意識形態量表：

　　本量表參考羅基繕(2007)及上述相關學者之論點編製而成。主要在評量受試者所覺知之父母與同儕的政治意識形態，相關題目包括：我的父母認為犯罪的人要受到嚴屬的處罰、我的父母支持死刑、我的父母常說壞人很多、我的父母認為不管任何理由，墮胎是不對的、我的父母對原住民沒有偏見、我的父母認為應該加強管制外國人到台灣工作、我的父母認為應該解除台灣人和外國人結婚的限制、我的父母認為同性戀是正常的、我的父母認為同性戀有結婚的權利、我的父母認為女性比男性有權力不是自然的現象、我的父母認為女生結婚後不生小孩是可以接受的、我的父母支持性交易除罪化、我的父母贊成婚前性行為。另有同儕相似評量題目。本量表主要在評量父母與同儕之意識型態係自由主義或保守主義，亦或左翼（左傾）觀點或右翼（右傾）觀點。

三、結構模式說明

　　根據前述文獻探討，標定會影響政治活動的因素，提出本研究架構如圖 1 所表示。青少年政治社會化理論模式包含青少年之權力意識、政治興趣、政治偏好及政治活動這四個潛在變項（latent variable）在研究架構圖中是以橢圓形為代表，政治活動有三個觀察變項：抗議行為、政治行動主義、代表的參與，在研究架構圖中是以長方形為代表，其他觀察變項亦同。在四個潛在變項中，權力意識、政治興趣是潛在自變項（latent independent variable），政治偏好及政治活動則是潛在依變項。

圖 1　青少年政治社會化之架構圖

以結構方程式考驗主要變項間的因果關係,如探究潛在自變項間之關聯(權力意識↔政治興趣);潛在自變項對潛在依變項之影響如:權力意識與政治興趣對政治偏好之影響(權力意識→政治偏好;政治興趣→政治偏好);權力意識、政治興趣與政治偏好對政治活動之影響(權力意識→政治活動;政治興趣→政治活動;政治偏好→政治活動);政治偏好在權力意識、政治興趣與政治活動間之中介效果(權力意識→政治偏好→政治活動;政治興趣→政治偏好→政治活動)。圖 1 的研究架構即是各項假設考驗與統計分析的基本架構。

　　圖 2 為本研究之結構方程式模式,圖中橢圓形表示潛在變項,方形表示觀察變項,箭頭符號表示因果關係,箭頭來源處為因,箭頭所指處為果,雙箭頭表示互為因果關係。潛在自變項共有二個,第一個潛在自變項(ξ_1)係權力意識;第二個潛在自變項(ξ_2)係政治興趣。而潛在依變項亦有二個,第一個潛在依變項(η_1)係指政治偏好;第二個潛在依變項(η_2)係政治活動,ζ 為模式的誤差項,δ 為觀察變項 X 的誤差項,ε 為觀察變項 Y 的誤差項。圖中,屬於潛在自變項 ξ 的觀察指標者為 X 組變項,分別有 X_1 至 X_8 等 8 個變項,分別為自主決定、言論重視、認知風格、情緒支持、組織信任、媒體涉入、政治討論與政治關心。潛在依變項 η 的觀察指標者為 Y 組變項,分別有 Y_1 至 Y_{11} 等 11 個變項,分別為領導魅力、財富的分配、政黨偏好、社會福利、工作機會、國家角色、貿易保護、對戰爭的態度、抗議行為、政治行動主義與代表的參與。在此結構方程式中,潛在自變項 ξ 與 Y 組變項沒有直接關係,潛在依變項 η 與 X 組變項亦沒有直接關係。架構圖中的 X、Y 觀察變項的測量模式為 $X=\lambda_x\xi+\delta$ 與 $Y=\lambda_y\eta+\varepsilon$ 其中 λ_x 表示觀察變項 X 對潛在自變項 ξ 的 q×n 階係數矩陣,λ_y 表示觀察變項 Y 對潛在依變項 η 的 p×m 階係數矩陣,如觀察自變項 $X_1=\lambda_1\xi_1+\delta_1$。

圖 2 青少年政治社會化之結構方程模式圖

四、統計分析

本研究所得資料均以 SPSS 14.0 for Windows 進行考驗，主要統計方法如下：

（一）t 考驗：本研究以獨立樣本 t-test，驗證男女青少年在在父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母政治意識形態各量表得分之總分差異。

（二）單因子變異數分析（one-way ANOVA）：本研究以單因子變異數分析考驗國中、高中與高職學生在父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母政治意識形態各量表得分之總分差異。

（三）以線性結構關係（Linear Structural Relations，LISREL）考驗圖 2 之假設性結構方程模式之可靠性或適配度。

五、研究步驟及程序

本研究計畫獲審查通過後，即開始進行下列主要研究工作，包括：1. 文獻蒐集與撰寫：儘管本研究計畫之青少年政治社會化的文獻已相當豐富，但國外文獻可不斷賡續加強與修飾；2. 相關量表之編訂：本研究計畫將編擬基本資料調查表、父母與同儕政治價值觀量表、青少年權力意識量表、青少年政治興趣量表、

青少年政治偏好量表、青少年政治活動量表，於 2007 年 11 至 2008 年 1 月完成相關評量表之編訂，編訂過程中將再邀請政治學者、國高中教師、國高中學生家長、國高中學生各 5 至 10 人，針對本研究計畫相關評量表提供意見，並做潤飾與修正；3. 相關量表之預試與項目分析：預試與項目分析將於 2008 年 1 月至 2 月完成；4.正式施測：本研究計畫相關評量表之實施將於 2008 年 3 月至 6 月完成；5.統計分析：本研究資料整理與統計分析將於 2008 年 7 月至 9 月完成；6. 論文撰寫：將於 2008 年 7 月至 10 月完成；7.經費報結：將於 2008 年 10 月完成。

參、結果與討論

以下根據本研究之假設與調查統計分析結果陳述本研究之主要發現。

一、性別差異之分析

本研究首先分析青少年在父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母政治意識形態之性別差異，其結果如表 2 所示。

表 2
青少年父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母同儕意識型態之性別差異分析

	男生		女生		t
	M	SD	M	SD	
父母與同儕影響	32.2251	3.3579	31.8420	3.1504	2.337*
權力意識	123.6909	22.9650	124.1885	21.9582	-.493
政治興趣	43.6396	21.4467	43.8158	19.8510	-.169
政治偏好	187.0157	33.0486	180.6885	31.8535	3.866***
政治活動	68.6239	28.8860	65.4989	25.4898	2.287*
父母同儕意識型態	107.8191	20.5715	105.7596	19.0718	2.064*

*p<.05. ***p<.001.*

由表 2 可見男女青少年在本研究之各項評量表之總得分上除權力意識與政治興趣無顯著差異外，其餘均有顯著差異。在父母與同儕之政治影響上男生得分顯著高於女生（男生 *M*=32.2251,*SD*=3.3579；女生 *M*=31.8420, *SD*=3.1; *t*=2.337, *p*

<.05）。在政治偏好上男生得分亦顯著高於女生（男生 *M*=187.0157,*SD*=33.0486；女生 *M*=180.6885, *SD*=31.8535; *t*=3.866, *p* <.0001）。在政治活動方面男生得分 *M*=68.6239，*SD*=28.8860；女生得分 *M*=65.4989，*SD*=25.4898，兩者亦有顯著差異（*t*=2.287, *p*<.05）。在父母意識型態方面男生得分 *M*=107.8191，*SD*=20.5715；女生得分 *M*=105.7596，*SD*=19.0718，兩者亦有顯著差異（*t*=2.064, *p*<.05）。整體而言，青少年之政治相關行為，男生顯著高於女生，男生受父母影響一高於女生。不過本研究發現青少年男女之權力意識、政治興趣並無顯著差異，頗值得關注。此結果亦顯示男女生之政治社會化在青少年階段可能尚未完全分化。

二、國、高中與高職之分析

本研究接著分析青少年在國中、高中與高職不同學習階段其父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母政治意識形態之差異，其結果如表 3 所示。

表 3

不同學習階段之青少年父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母同儕意識型態之差異分析

	國中		高中		高職		*F*
	M	*SD*	*M*	*SD*	*M*	*SD*	
父母與同儕影響	31.7583	3.2118	32.3939	3.1342	31.8519	3.4494	5.319**
權力意識	118.0058	23.8999	130.0024	19.0731	126.2328	20.9861	43.515***
政治興趣	40.6777	20.1193	48.8443	19.3503	40.7162	20.0422	25.539***
政治偏好	177.7568	35.4102	185.8278	26.0189	188.5952	33.6484	16.162***
政治活動	61.3453	26.7658	73.3443	25.4074	68.2328	27.6573	27.847***
父母同儕意識型態	102.1007	21.6549	109.0896	15.1363	110.7434	20.0831	29.932***

**p<.01. ***p<.001.

由表 3 不同學習階段之青少年父母政治價值觀、同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母同儕意識型態之差異分析結果來看，本研究國中、高中與高職學生之各項政治相關課題均有顯著差異，同時除父母與同儕影響差異達顯著水準（*F*=5.319, *p*<.01）之外，其餘各項評量表之總分均為極顯著差異。在受父母與同儕影響方面，國中學生 *M*=31.7583，*SD*= 3.2118；高中學生得分 *M*=32.3939，*SD*=3.1342；高職得分 *M*=31.8519, *SD*=3.4494。以高中學生受父母影響較深遠，其次是高職學生，再次是國中學生。在權力意識方面，國中學生 *M*=118.0058，*SD*= 23.8999；高中學生得分 *M*=130.0024，*SD*=19.0731；高職得分 *M*=126.2328, *SD*=20.9861。此三個層級之學生得分經變異數分析結果有

極顯著差異（*F*=43.515, *p*<.001），同樣地，亦以高中學生得分最高，其次是高職學生，再次是國中學生。在政治興趣得分上，國中學生 *M*=40.6777，*SD*=20.1193；高中學生得分 *M*=48.8443，*SD*=19.3503；高職得分 *M*=40.7162，*SD*=20.0422。此三個層級之學生得分經變異數分析結果有極顯著差異（*F*=25.539，*p*<.001），亦以高中學生得分最高，其次是高職學生，再次是國中學生。在政治偏好得分上，國中學生 *M*=177.7568，*SD*= 35.4102；高中學生得分 *M*=185.8278，*SD*=26.0189；高職得分 *M*=188.5952, *SD*=33.6484。此三個層級之學生得分經變異數分析結果有極顯著差異（*F*=16.162, *p*<.001），亦以高中學生得分最高，其次是高職學生，再次是國中學生。在父母意識型態方面國中學生 *M*=102.1007，*SD*=21.6549；高中學生得分 *M*=21.6549，*SD*=15.1363；高職得分 *M*=110.7434，*SD*=20.0831；此三個層級之學生得分經變異數分析結果有極顯著差異（*F*=29.932 *p*<.001）。整體而言，青少年之政治相關行為，高中顯著高於高職學生與國中學生。可能顯示隨著年齡增加，青少年之政治相關行為與活動會增加，至於高中與高職學生之差異原因可能值得再深入探討。

三、青少年男性政治社會化之理論模式適配度考驗結果

　　本研究分別考驗青少年男生與女生之政治社會化歷程相關變項之結構方成模式，以發現相關變項間之因果關係。

　　青少年政治社會化的程度涉及多個層面特性，因而採結構方程模式（Structural Equation Modeling, SEM）的分析方法，建構一個包含權力意識、政治興趣、政治偏好及政治活動等潛在變項來影響青少年政治社會化之理論模式，除檢驗該理論模式與觀察資料的適配度之外，也進一步分析前述因素彼此之間的關係。

　　本研究為比較總樣本及不同性別之樣本間政治社會化程度是否有顯著不同，因此將所得數據分三個部份進行青少年政治社會化理論模式的適配度檢驗，第一部份為所有青少年樣本的模式考驗，第二部份以男性青少年為樣本的模式考驗，第三部份以女性青少年為樣本的模式考驗。採用 AMOS4.0 版以最大概似法（Maximum likelihood, ML）進行參數估計，將研究之理論模式與量表填答之數據匯入 AMOS 程式中進行模式的分析、考驗，最後獲致如圖 3、圖 4、圖 5 之理論模式徑路係數。以下將說明各模式之適配度考驗結果。

第一部份

一、青少年政治社會化之理論模式適配度考驗結果

（一）基本適配度考驗結果

　　青少年政治社會化模式分析之參數估計值，由表 4 所列結果可以發現所有的標準化誤差變異估計值介於.13~1.12 之間，沒有負的估計值，如果誤差變異估計值是負值，那麼個別項目的信度就會超過 1，顯然不合理。本研究理論模式的所有誤差變異，皆達.001 的顯著水準，觀察變項在潛在變項的因素負荷量大多在.50 的評鑑標準之上，僅有權力意識此一潛在變項中部份因素(言論重視、情緒支持、組織信任)未達.50 的評鑑標準，代表該變項之測量工具可能出現誤差，需進一步探討。但整體而言，青少年政治社會化模式尚符合基本適配標準。

（二）整體適配度考驗結果

　　研究理論模式的整體適配度除了評量整個模式與觀察資料的適配情形，也在評量模式的外在品質，青少年政治社會化模式的整體模式適配分析結果如同表 1 所示。

　　從表 1 的結果可以發現 χ^2=326.726 未達可接受的標準，然而 χ^2值易受大樣本之影響(黃芳銘，2004)，而本研究之樣本特性（全台灣地區樣本之研究）極有可能使 χ^2 值未達可接受標準，可以進一步檢視其他的適配指標如 χ^2 值比率，此一比率值之評鑑標準建議低於 3，本模式 χ^2 值比率為 2.891，符合評鑑標準。

　　在整體模式適合標準上，陳順宇（2007）認為理論模式的適配度指數（goodness of fit index, GFI）、調整後適配度指數（adjusted goodness of fit index, AGFI）、規準適配指數（normed fit index, NFI）、增值適配度指數（incremental fit index, IFI）、TLI（即 NNFI）指數等數值越接近 1 則代表適配度越佳，若大於.9

就表示適配度極佳。本研究理論模式的適配度指數皆在理想的數值.9 以上。標準化殘差均方根（standardized root mean square residual, SRMR）是殘差共變數矩陣中獨特元素的平方之平均的平方根，反映的是殘差的大小，故其值愈小表示模式的適配度愈佳，吳明隆、涂金堂（2006）認為 SRMR 必須低於.05，本研究理論模式的 SRMR 是.045，達適配標準。「漸進殘差均方和平方根」（RMSEA）之值為.039（數值介於.05 至.08 間表示模式良好，數值小於.05 表示模式適配度非常優良），代表青少年政治社會化模式適配度非常優良。而簡約適配度各項指數值均達適配之標準，顯示出良好之適配度。

　　綜觀整體適配度評鑑的結果，青少年政治社會化模式的絕對適配度、簡約適配度和增值適配度三方面的評鑑結果，均達到統計檢定量適配的臨界值，顯示青少年政治社會化模式具有理想的外在品質，能解釋影響青少年政治社會化相關因素的觀察資料。

表 4
適配度指數摘要表

統計檢定量適配之標準	分析結果	是否達標準
絕對適配度指數		
χ^2 值　$p>.05$	χ^2=326.726　df=113 P=.000	否
χ^2 值比率＜3	CMIN/df = 2.891	是
GFI 值＞.9	GFI 指數= .974	是
RMR 值＜.05	SRMR= .045	是
RMSEA < .08	RMSEA=.039	是
增值適配度指數		
AGFI 值＞.9	AGFI 指數= .956	是
Δ_1（NFI）值＞.9	NFI= .972	是
Δ_2（IFI）值＞.9	IFI= .982	是
TLI（NNFI）值＞.9	NNFI= .972	是
CFI 值＞.9	CFI= .982	是
簡約適配度指數		
PGFI 值＞.5	PGFI = .579	是
PNFI 值＞.5	PNFI=.643	是
PCFI 值＞.5	PCFI=.649	是
CN 值＞200	CN=528	是
模式內在品質		
估計的參數　$p<.05$		是

標準化殘差絕對值＜1.96		是
誤差變異均達顯著且無負值	.13~1.12	是
因素負荷量之值介於.50~.95 間	.44 至.98	否

（三）內在適配度考驗結果

在模式的內在適配度上，青少年政治社會化結構模式中共有 17 個觀察指標，其個別指標信度中僅有「權力掌控」、政黨偏好(.98)此二觀察變項低於.50 及高於.95 的標準，其餘觀察指標的個別指標信度介於.50 至.95 之間是理想的結果。而上述三個未達.標準的觀察變項，代表著以二者作為權力意識潛在變項的觀察指標，可能有測量誤差存在，有改進的空間。

根據計算所得的潛在依變項 R^2 值，政治偏好和政治活動兩個潛在變項數值分別為.24 和.48，其中，兩者之 R^2 值低於.50 的標準，即以權力意識、政治興趣等潛在變項來解釋政治偏好之情形似乎仍有不足，或許仍有其他變項影響因素存在，仍需進一步研究方能得知。

圖 3 兩性政治活動結構模式標準化解

實線(━━►)代表線兩端連結之因素間作用達.05 以上之統計顯著水準。

虛線(--►)代表線兩端連結之因素間作用未達.05 以上之統計顯著水準。

二、青少年政治社會化之理論模式潛在變項間的效果

青少年政治社會化之理論模式（圖 3）中，共有 4 個潛在變項，17 的觀察變項，變項間的影響包括直接效果（direct effect）、間接效果（indirect effect）和整

體效果（total effect）三方面，以下則將針對這三方面分別加以說明。

（一）潛在變項間的直接效果

研究的理論模式中含潛在自變項以及潛在依變項兩類變項，以下將依潛在自變項對潛在依變項的影響，和潛在依變項對潛在依變項的影響兩方面來討論。

1.潛在自變項對潛在依變項的直接效果

圖 3 顯示青少年政治社會化之理論模式中各潛在變項間的直接效果，以標準化解的方式呈現，本研究以權力意識及政治興趣為潛在自變項，兩者分別對政治偏好與政治活動的影響是直接效果。從實際所得的觀察資料顯示，權力意識對政治活動之直接效果不明顯(標準化迴歸係數為.01，p>.05)，但對政治偏好的直接效果值為.26，達到統計顯著水準（β =.26, p<.001），代表青少年之權力意識愈強烈，對政治議題有較明顯的偏好；政治興趣對政治偏好的直接效果值為.34，達到統計顯著水準（p<.001），而政治興趣對政治活動的直接效果值為.65，分析結果顯示其直接效果達到統計顯著水準（p＜.001），也就是說，青少年對政治的興趣愈濃厚，可能對政治的相關議題較為關注，並且可能較熱衷於政治活動。

2.潛在依變項對潛在依變項的直接效果

政治偏好依變項對政治活動依變項之直接效果如圖 3 的徑路係數結果所示，其標準化迴歸係數是.09，未達統計顯著水準（p>.05），亦即對政治有某種偏好之青少年，可能不會影響參與政治活動的動機。

3.潛在變項的殘差變異量

政治偏好的 R^2 值是.24，亦即權力意識及政治興趣兩潛在變項可以解釋政治偏好總變異量的.24%。其次，本研究假設青少年參與政治活動之情形是受到權力意識、政治興趣和政治偏好的直接影響，但因權力意識對政治活動的效果不顯著，代表青少年之權力意識對參與政治活動的情形無直接影響，但另兩變項的直接效果顯著，代表青少年對政治懷有較高之興趣，對政治議題有明顯偏好者，參與政治活動的可能性會增加，R^2 值是.48，所以這三個潛在變項共可解釋政治活動總變異量的 48%，其中以政治興趣的直接影響效果較大（標準化迴歸係數是.65）。

（二）潛在變項間的間接效果

在潛在變項間的間接效果方面，權力意識對政治活動之間接影響路徑為權力意識→政治偏好→政治活動，其效果值是.02。政治興趣對政治活動的間接影響路徑為政治興趣→政治偏好→政治活動，其效果值是.03。於此模式中，政治偏好在其他潛在變項間中介效果不明顯。

（三）潛在變項間的全體效果

權力意識對政治活動的全體效果為.03(直接效果.01+間接效果.02)；政治興趣對政治活動的全體效果為.68(直接效果.65+間接效果.03)；政治偏好對政治活動之全體效果為.09(直接效果.09+間接效果 0)。比較權力意識、政治興趣及政治偏好三者對政治活動之影響，發現以政治興趣之效果值.68 最顯著，其次為政治偏好.09，最後為權力意識之.03。綜合理論模式各潛在變項間的全體效果值會發現，

政治興趣對於政治活動的全體效果值最高，代表國內青少年參與政治活動最主要的驅力可能來自於對政治的高度興趣。

第二部份

一、青少年男性政治社會化之理論模式適配度考驗結果

（一）基本適配度考驗結果

　　青少年男性政治社會化模式分析之參數估計值，由表 2 所列結果可以發現所有的標準化誤差變異估計值介於.16~1.45 之間，沒有負的估計值，所有誤差變異皆達.001 的顯著水準，觀察變項在潛在變項的因素負荷量都在.50 的評鑑標準之上，代表青少年男性政治社會化模式符合基本適配標準。

（二）整體適配度考驗結果

　　研究理論模式的整體適配度除了評量整個模式與觀察資料的適配情形，也在評量模式的外在品質，青少年男性政治社會化模式的整體模式適配分析結果如同表 2 所示。

　　從表 2 的結果可以發現 χ^2=298.07 未達可接受的標準，但進一步檢視其他的適配指標如 χ^2 值比率為 2.891，符合評鑑標準。

　　在整體模式適合標準上，理論模式的適配度指數、調整後適配度指數、規準適配指數、增值適配度指數等數值越接近 1 則代表示適配度越佳，若大於.9 就表示適配度極佳。本研究理論模式的適配度指數皆在理想的數值.9 以上。標準化殘差均方根之值愈小表示模式的適配度愈佳，以低於.05 為佳(吳明隆、涂金堂，2006)，本研究理論模式的 SRMR 是.072，未達適配標準。「漸進殘差均方和平方根」（RMSEA）之值為.049（數值介於.05 至.08 間表示模式良好，數值小於.05 表示模式適配度非常優良），代表青少年政治社會化模式適配度非常優良。而簡約適配度各項指數值均達適配之標準（見表 5），顯示出良好之適配度。

　　綜觀整體適配度評鑑的結果，由表 5 獲知青少年男性政治社會化模式的模式適配度指數雖有二項未達適配標準，但其餘數值如：絕對適配度、簡約適配度和增值適配度各項目的評鑑結果，均達到統計檢定量適配的臨界值，顯示青少年男性政治社會化模式具有尚佳的外在品質，能解釋影響青少年男性政治社會化相關因素的觀察資料。

表 5

青少年男性政治活動模式適配度指數摘要表

統計檢定量適配之標準	分析結果	是否達標準
絕對適配度指數		
χ^2 值　$p>.05$	χ^2=298.07　df=130 P=.000	否
χ^2 值比率<3	CMIN/ df = 2.293	是
GFI 值>.9	GFI 指數= .945	是
RMR 值<.05	SRMR= .072	否

RMSEA＜.08	RMSEA=.049	是
增值適配度指數		
AGFI 值＞.9	AGFI 指數= .919	是
Δ_1（NFI）值＞.9	NFI= .943	是
Δ_2（IFI）值＞.9	IFI= .967	是
TLI（NNFI）值＞.9	NNFI= .957	是
CFI 值＞.9	CFI= .967	是
簡約適配度指數		
PGFI 值＞.5	PGFI = .646	是
PNFI 值＞.5	PNFI=.717	是
PCFI 值＞.5	PCFI=.735	是
CN 值＞200	CN= 283	是
模式內在品質		
估計的參數 p＜.05		是
標準化殘差絕對值＜1.96		是
誤差變異均達顯著且無負值	.16~1.45	是
因素負荷量之值介於.50~.95 間	.51 至.93	是

（三）內在適配度考驗結果

在模式的內在適配度上，青少年政治社會化結構模式中共有 17 個觀察指標，其個別指標信度均介於.50 至.95 之間，是理想的適配結果。

根據計算所得的潛在依變項 R^2 值，政治偏好和政治活動兩個潛在變項數值分別為.21 和.60，其中，政治偏好之 R^2 值低於.50 的標準，即以即以權力意識、政治興趣等潛在變項來解釋政治偏好之情形似乎仍有不足，或許仍有其他變項影響因素存在，仍需進一步研究方能得知。

圖 4 青少年男性政治活動結構模式標準化解

　　　實線(——▶)代表線兩端連結之因素間作用達.05 以上之統計顯著水準。

　　　虛線(--▶)代表線兩端連結之因素間作用未達.05 以上之統計顯著水準。

二、青少年男性政治社會化之理論模式潛在變項間的效果

　　青少年政治社會化之理論模式（圖 3）中，共有 4 個潛在變項，17 的觀察變項，變項間的影響包括直接效果（direct effect）、間接效果（indirect effect）和整體效果（total effect）三方面，以下則將針對這三方面分別加以說明。

（一）潛在變項間的直接效果

　　研究的理論模式中含潛在自變項以及潛在依變項兩類變項，以下將依潛在自變項對潛在依變項的影響，和潛在依變項對潛在依變項的影響兩方面來討論。

1.潛在自變項對潛在依變項的直接效果

　　圖 4 顯示青少年男性政治社會化之理論模式中各潛在變項間的直接效果，以標準化解的方式呈現，本研究以權力意識及政治興趣為潛在自變項，兩者分別對政治偏好與政治活動的影響是直接效果。從實際所得的觀察資料顯示，權力意識對政治偏好(標準化迴歸係數為.34，p<.01)之直接效果明顯，代表青少年男性之權力意識愈強烈，對政治議題有較明顯的偏好，但對政治活動(標準化迴歸係數為.08，p>.05)之直接效果則不明顯。政治興趣對政治偏好的直接效果值為.20，達到統計顯著水準（p<.01），而政治興趣對政治活動的直接效果值為.70，分析結果顯示其直接效果達到統計顯著水準（p<.001），也就是說，男生對政治的興趣愈濃厚，可能對政治的相關議題較為關注，並且可能較熱衷於政治活動。

2.潛在依變項對潛在依變項的直接效果

政治偏好依變項對政治活動依變項之直接效果如圖 4 的徑路係數結果所示，其標準化迴歸係數是.10，達統計顯著水準（p<.05），此迴歸係數是正值，亦即對政治有某種偏好之男性青少年，參與政治活動的動機可能較為強烈。

3.潛在變項的殘差變異量

政治偏好的 R^2 值是.21，亦即權力意識及政治興趣兩潛在變項可以解釋政治偏好總變異量的.21%。其次，本研究假設青少年參與政治活動之情形是受到權力意識、政治興趣和政治偏好的直接影響，但因權力意識對政治活動的效果不顯著，代表青少年之權力意識對參與政治活動的情形無直接影響，但另兩變項的直接效果顯著，代表青少年對政治懷有較高之興趣，對政治議題有明顯偏好者，參與政治活動的可能性會增加，R^2 值是.60，所以這三個潛在變項共可解釋政治活動總變異量的 60%，其中以政治興趣的直接影響效果較大（標準化迴歸係數是.70）。

（二）潛在變項間的間接效果

在潛在變項間的間接效果方面，權力意識對政治活動之間接影響路徑為權力意識→政治偏好→政治活動，其效果值是.03。政治興趣對政治活動的間接影響路徑為政治興趣→政治偏好→政治活動，其效果值是.02。於此模式中，政治偏好在其他潛在變項間之中介效果不明顯。

（三）潛在變項間的全體效果

權力意識對政治活動的全體效果為.11(直接效果.08+間接效果.03)；政治興趣對政治活動的全體效果為.72(直接效果.70+間接效果.02)；政治偏好對政治活動之全體效果為.10(直接效果.10+間接效果 0)。比較權力意識、政治興趣及政治偏好三者對政治活動之影響，發現以政治興趣之效果值.72 最顯著，其次為權力意識.11，最後為政治偏好之.10。綜合理論模式各潛在變項間的全體效果值會發現，政治興趣對於政治活動的全體效果值最高，代表國內男性青少年參與政治活動最主要的驅力可能來自於對政治的高度興趣。

第三部份

一、青少年女性政治社會化之理論模式適配度考驗結果

（一）基本適配度考驗結果

青少年女性政治社會化模式分析之參數估計值，由表 3 所列結果可以發現所有的標準化誤差變異估計值介於.06~1.12 之間，沒有負的估計值，所有誤差變異皆達.001 的顯著水準，觀察變項在潛在變項的因素負荷量大多在.50 的評鑑標準之上，僅有權力意識此一潛在變項中權力掌控及政治偏好潛在變項中之貿易保護因素未達.50 的評鑑標準，代表該變項之測量工具在施測時，部分問題未能確實反應女性受試者對權力意識及政治偏好的想法，需進一步探討。但整體而言，青少年女性政治社會化模式尚符合基本適配標準。

（二）整體適配度考驗結果

　　研究理論模式的整體適配度除了評量整個模式與觀察資料的適配情形，也在評量模式的外在品質，青少年女性政治社會化模式的整體模式適配分析結果如同表 6 所示。

　　從表 6 的結果可以發現 χ^2=353.085 未達可接受的標準，但進一步檢視其他的適配指標如 χ^2 值比率為 2.825，符合評鑑標準。

　　在整體模式適合標準上，理論模式的適配度指數、調整後適配度指數、規準適配指數、增值適配指數等數值越接近 1 則代表示適配度越佳，若大於.9 就表示適配度極佳。本研究理論模式的適配度指數皆在理想的數值.9 以上。標準化殘差均方根之值愈小表示模式的適配度愈佳，以低於.05 為佳，本研究理論模式的 SRMR 是.055，未達適配標準。「漸進殘差均方和平方根」（RMSEA）之值為.051（數值介於.05 至.08 間表示模式良好，數值小於.05 表示模式適配度非常優良），代表青少年政治社會化模式適配度良好。而簡約適配度各項指數值均達適配之標準（見表 6），顯示出良好之適配度。

　　綜觀整體適配度評鑑的結果，由表 6 獲知青少年女性政治社會化模式的模式適配度指數雖有三項未達適配標準，但其餘數值如：絕對適配度、簡約適配度和增值適配度各項目的評鑑結果，均達到統計檢定量適配的臨界值，顯示青少年女性政治社會化模式具有尚佳的外在品質，能解釋影響青少年女性政治社會化相關因素的觀察資料。

表 6 青少年女性政治活動模式適配度指數摘要表

統計檢定量適配之標準	分析結果	是否達標準
絕對適配度指數		
χ^2 值 $p > .05$	$\chi^2 = 353.085$ $df = 125$ $P = .000$	否
χ^2 值比率＜3	CMIN/df = 2.825	是
GFI 值＞.9	GFI 指數= .950	是
RMR 值＜.05	SRMR= .055	否
RMSEA＜.08	RMSEA=.051	是
增值適配度指數		
AGFI 值＞.9	AGFI 指數= .924	是
Δ_1（NFI）值＞.9	NFI= .948	是
Δ_2（IFI）值＞.9	IFI= .966	是
TLI（NNFI）值＞.9	NNFI= .953	是
CFI 值＞.9	CFI= .965	是
簡約適配度指數		
PGFI 值＞.5	PGFI = .625	是
PNFI 值＞.5	PNFI=.693	是
PCFI 值＞.5	PCFI=.706	是
CN 值＞200	CN= 305	是
模式內在品質		
估計的參數 $p < .05$		是
標準化殘差絕對值＜1.96		是
誤差變異均達顯著且無負值	.06~1.12	是
因素負荷量之值介於.50~.95 間	.36 至.95	否

（三）內在適配度考驗結果

在模式的內在適配度上，青少年女性政治社會化結構模式中共有 17 個觀察指標，其個別指標信度中有「權力掌控」(.36，見圖 5）及「貿易保護」(.39) 此二觀察變項低於.50 的標準，其餘觀察指標的個別指標信度介於.50 至.94 之間是理想的結果。而上述三個未達.50 標準的觀察變項，代表著以三者作為權力意識潛在變項的觀察指標，可能有測量誤差存在，有改進的空間。

根據計算所得的潛在依變項 R^2 值，政治偏好和政治活動兩個潛在變項數值分別為.29 和.61，其中，政治偏好之 R^2 值低於.50 的標準，即以即以權力意識、政治興趣等潛在變項來解釋政治偏好之情形似乎仍有不足，或許仍有其他變項影響因素存在，仍需進一步研究方能得知。

圖 5　青少年女性政治社會化結構模式標準化解

　　　實線(➞)代表線兩端連結之因素間作用達.05 以上之統計顯著水準。

　　　虛線(--➞)代表線兩端連結之因素間作用未達.05 以上之統計顯著水準。

二、青少年女性政治社會化之理論模式潛在變項間的效果

　　青少年女性政治社會化之理論模式（圖 5）中，共有 4 個潛在變項，17 的觀察變項，變項間的影響包括直接效果、間接效果和整體效果三方面，以下則將針對這三方面分別加以說明。

（一）潛在變項間的直接效果

　　研究的理論模式中含潛在自變項以及潛在依變項兩類變項，以下將依潛在自變項對潛在依變項的影響，和潛在依變項對潛在依變項的影響兩方面來討論。

1.潛在自變項對潛在依變項的直接效果

　　圖 5 顯示青少年政治社會化之理論模式中各潛在變項間的直接效果，以標準化解的方式呈現，本研究以權力意識及政治興趣為潛在自變項，兩者分別對政治偏好與政治活動的影響是直接效果。從實際所得的觀察資料顯示，權力意識對政治活動之直接效果明顯(標準化迴歸係數為.14，p<.05)，對政治偏好的直接效果值為.29，亦達到統計顯著水準（p＜.001），代表青少年女性之權力意識愈強烈，對政治議題有較明顯的偏好，且對政治活動較為熱衷。政治興趣對政治偏好的直接效果值為.39，達到統計顯著水準（p<.001），而政治興趣對政治活動的直接效果值為.66，分析結果顯示其直接效果達到統計顯著水準（p＜.001），也就是說，青少年對政治的興趣愈濃厚，可能對政治的相關議題較為關注，並且可能較熱衷

於政治活動。

2.潛在依變項對潛在依變項的直接效果

政治偏好依變項對政治活動依變項之直接效果如圖 5 的徑路係數結果所示，其標準化迴歸係數是.13，達統計顯著水準（p<.05），此迴歸係數是正值，亦即對政治有某種偏好之青少年女性，參與政治活動的動機可能較為強烈。

3.潛在變項的殘差變異量

政治偏好的 R^2 值是.29，亦即權力意識及政治興趣兩潛在變項可以解釋政治偏好總變異量的 29%。其次，本研究假設青少年參與政治活動之情形是受到權力意識、政治興趣和政治偏好的直接影響，但因權力意識對政治活動的效果不顯著，代表青少年女性之權力意識對參與政治活動的情形可能較無直接影響，但另兩變項的直接效果顯著，代表青少年對政治懷有較高之興趣，對政治議題有明顯偏好者，參與政治活動的可能性會增加，R^2 值是.61，所以這三個潛在變項共可解釋政治活動總變異量的 61%，其中以政治興趣的直接影響效果較大（標準化迴歸係數是.66）。

（二）潛在變項間的間接效果

在潛在變項間的間接效果方面，權力意識對政治活動之間接影響路徑為權力意識→政治偏好→政治活動，其效果值是.04。政治興趣對政治活動的間接影響路徑為政治興趣→政治偏好→政治活動，其效果值是.05。於此模式中，政治偏好在其他潛在變項間之中介效果不顯著。

（三）潛在變項間的全體效果

權力意識對政治活動的全體效果為.18(直接效果.14+間接效果.04)；政治興趣對政治活動的全體效果為.71(直接效果.66+間接效果.05)；政治偏好對政治活動之全體效果為.13(直接效果.13+間接效果 0)。比較權力意識、政治興趣及政治偏好三者對政治活動之影響，發現以政治興趣之效果值.71 最顯著，其次為權力意識.18，最後為政治偏好之.13。綜合理論模式各潛在變項間的全體效果值會發現，政治興趣對於政治活動的全體效果值最高，代表國內青少年女性參與政治活動最主要的驅力可能來自於對政治的高度興趣。

由上述結構方程分析結果來看，本研究所探討與分析之影響青少年政治社會化歷程之重要變項具有解釋與參考價值。尤其從女性青少年政治社化歷程來看，由實際所得的觀察資料顯示，權力意識對政治活動之直接效果頗為明顯，對政治偏好的直接效果亦達到統計顯著水準，代表青少年女性之權力意識愈強烈，對政治議題有較明顯的偏好，且對政治活動較為熱衷。另外，女性青少年對政治的興趣愈濃厚，可能對政治的相關議題較為關注，並且可能較熱衷於政治活動。因此，本研究假定青少年階段是重要的政治社會化歷程之假定，獲得支持。準此，在國高中階段，加強青少年的權力意識概念，增強其關懷社會與政治議題，應有助於青少年熱衷相關政治議題與對政治活動的踴躍參與。

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計畫成果自評部份：

本研究之主要目的在探討青少年政治社會化歷程,分析青少年男女生在父母與同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母與同儕政治意識形態之差異;青少年在國中、高中與高職不同學習階段其父母與同儕政治價值觀、權力意識、政治興趣、政治偏好、政治活動、父母與同儕政治意識形態之差異;以及整體青少年及男女生在青少年政治社會歷程中各主要變項所建構之理論模式之適配度。研究內容與原計畫相符程度高,大部份達成預期目標,本研究是國內外僅有之青少年,尤其是女性青少年政治社會化歷程分析之研究。本研究成果具學術或應用價值,稍加整理與翻譯成英文後適合在學術期刊發表。本研究並發展了未來評量國內青少年政治社會化歷程之客觀工具,同時也可以據以輔導青少年男女充分政治發展,以便貢獻社會及人群,本研究甚具理論與推廣應用之價值。

附錄 出席國際學術研討會報告

報告人：黃德祥

會議名稱：2008 Hawaii International Conference on Education

開會日期：2008 年 1 月 5 日(Saturday)至 1 月 8 日(Tuesday)

開會地點：Waikiki Beach Marriott Resort & Spa 及 Hilton Waikiki

Prince Kuhio Hotel in Honolulu, Hawaii, U. S. A.

個人今年有兩篇論文被接受，幸運獲得參加「2008 年夏威夷國際教育學術研討會」(2008 Hawaii International Conference on Education)。本研討會由 2003 年創設至今已有六屆，是目前全世界規模最大的教育類國際學術研討會，每年吸引近五十個國家，約一千五百名的教育學術專家學者參與。這項研討會剛開始由夏威夷大學主辦，隨後演變成由專業的研討會主辦機構籌辦，每年再邀請世界各國的大學學術團體贊助或合辦。北京大學曾於 2006 年協辦該年的學術研討會。今年此項研討會的合作機構是 The University of Louisville－Center for Sustainable Urban Neighborhoods, New Horizons in Education－The Journal of Education, Hong Kong Teachers' Association 與 Pepperdine University－Graduate School of Education and Psychology。今年的會議於 2008 年 1 月 5 日(Saturday)至 1 月 8 日(Tuesday) 於夏威夷的 Waikiki Beach Marriott Resort & Spa 及 Hilton Waikiki Prince Kuhio Hotel in Honolulu 舉行。該飯店緊鄰世界最著名海灘 Waikiki 海邊，風景秀麗，飯店的 Waiters 與 Waitresses 對台灣來的學者非常友善。由於開會地點頗富盛名，因此，今年參加此項國際學術研討會的學者仍然非常踴躍，發表的論文，頗多佳作，另有壁報發表及未收錄於光碟片者共計約近五百篇論文，可說是國際少見大規模的教育學術研討饗

宴。今年個人發表之論文是:「中學生知識論信念的理論建構與測量」

(Theoretical Construction & Measurement of Epistemological Belief of Senior Vocational School Students)與「台灣欺凌受害學生之特質分析研究」(The Characteristics of Victim of Bullying Behaviors in Taiwanese Students)。

　　「中學生知識論信念的理論建構與測量」一文主要關切台灣中學生知識論信念的內涵與測量。個人對知識的本質與求知歷程所懷抱的信念,稱為知識論信念 (epistemological belief),對認知學習有很大的影響,進而影響到教學的理論。國外知識論信念的研究成果相當豐富,然而在國內則缺乏對知識論信念理論建構及測量的研究。本研究參酌 Schommer (1990, 1998)的知識論信念問卷自編題目,以 296 名台灣高中職學生為對象,探討知識論信念的潛在建構,發現成熟的知識論信念與不成熟的知識論信念二者可能不是同一向度的兩極,而是兩個不同的向度。本研究所發展的 18 題的知識論信念問卷,包括「知識的建構性」、「知識的脈絡性」、「漸增能力」、「漸增學習」、「追根究柢」五個因素,五個因素彼此相關 (.38~.84),且共同負荷在二階因素「成熟的知識論信念」之上。此外,本研究亦支持 Hofer 與 Pintrich (1997)的論點,五個因素可以分別負荷在「知識學習的本質」與「知識學習的歷程」兩個二階因素之上。本研究的屬性為探索性與描述性

的，因此未來仍有待相同母群不同樣本的資料進行複核效化 (cross validation)研究，以進一步驗證本研究的成果。

「台灣欺凌受害學生之特質分析研究」之主要目的在於探討校園欺凌行為受害學生的形成原因，分析其需求與相關問題，並根據研究發現，對受害學生之防治對策提供各項建議，以供學校輔導工作的參考。本研究採用質的研究法中的深度訪談法，並以半結構訪談大綱引導訪談之進行。本研究的受訪者共有國中學生五人。研究者先將訪談過程全部錄音，事後再將錄音帶轉謄成逐字稿，進行編碼的工作，再將所收集到的資料加以分類、整理、組織，成為有用的資源。本研究發現，校園欺凌受害者可能因為肢體上有某些特徵，或是人格上具有某些特質，而容易招致他人欺凌。受欺凌的學生通常身材矮小，而且比較瘦弱；個性較沈默、較膽小，且不討人喜歡；獨來獨往；很愛告狀；成績很爛；散漫骯髒。此外，受欺凌的學生與父母、手足的關係較差，家庭較少情感支持，缺乏家庭凝聚力。本研究最後根據研究發現對防治校園欺凌行為之對策提供各項建議。

「中學生知識論信念的理論建構與測量」一文的另一作者是個人學生，彰化師範大學教育研究所博士班學生林重岑。「台灣欺凌受害學生之特質分析研究」的共同作者係台中教育大學人文暨藝術學院院長魏麗敏教授。我們發表的場次被安排在 2008 年 1 月 5 日上午九

點半暨下午一點舉行。相關論文發表場次與會者眾，每場次約近十餘位參加，我們論文發表完畢，竟意外有多人次發問，如非主席限制時間，尚有多人提問，另有多人向本人要名片、索取論文。第一場次與會學者特別關心中學與大學生知識信念之評量適切性，以及測量誤差問題。另一場次論文發表與會學者則關心欺凌行為是否有年齡層之差異，如幼兒、兒童與青少年是否相同，另也有學者關心質量研究之差異，以及不同國家之異同，均由個人一一答覆。這次參與國際學術研討會，激勵個人更多成長機會，對未來研究有積極幫助。此次會議在 Hotels 不同的 Room 同時分場舉行，沒有午休，也無中場休息，連續發表，也由於分成多個場次同時進行，所有參與者只能自選部分感興趣的主題旁聽，因此，每個場次聽眾的人數大約在十人左右，但也因此，論文的發表反像是小型研討會，論文發表者的壓力較小，相互溝通的機會較多。

這次國際教育學術研討會幾乎涵蓋所有教育領域的主題，包括：教育行政、課程研究與發展、閱讀教育、健康教育、音樂教育、諮商教育、藝術教育、數學教育、特殊教育、師資培育、成人教育、遠距教育、初等教育、商業教育、本土教育、多元文化教育、幼兒教育、科學教育、教育科技、教育心理學、體育與休閒教育等，內容豐富。來自不同國家的人相互觀摩，也可以促進國際學術交流與合作。夏威

夷是東西文化交流最密切的地方，觀光業尤其發達，是世界著名渡假勝地，一月適逢年假，且美國寒冬，因此人山人海。夏威夷是美國第五十州，於一九五九年八月二十一日才成為美國的一州，目前主要人種，除美國白種人外，以日本人最多，其次是華人、韓國人、土著及菲律賓人等，是具有多討元文化與多重語言的地方，更有美國本土少見的多元種族通婚與種族融合。個人慶幸能應邀與會，除能將個人研究所得與世界各國學術界人士分享外，並能增廣見聞，獲悉當前國際教育學術發展潮流，可謂成果豐碩。

附錄：出席國際學術研討會論文

Title: Theoretical Construction and Measurement of Epistemological Beliefs of High

School Students in Taiwan

Topic: Educational psychology

Keywords: Epistemological beliefs, Construct validity, Factor analysis

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Theoretical Construction and Measurement of

Epistemological Beliefs of High School Students in Taiwan

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Abstract

Epistemological beliefs are referred to personal beliefs towards the essence of knowledge, ways of knowing, or epistemic cognition, activated as we engage in learning and knowing. The main purposes of this study are to construct an inventory to measure epistemological beliefs of high school students in Taiwan and to test its reliability and validity. One Chinese version of epistemological beliefs inventory has been developed based on Schommer (1990, 1998), Hofer and Pintrich (1997) and Hofer (2004). Data getting from 296 Taiwanese students were analyzed by exploratory factor analysis and internal consistency reliability analysis. The results of confirmatory factor analysis, χ^2=205.2, df=129, p=.000; CFI=.91; RMSEA=.047, support the theoretical construction for epistemological beliefs of previous related studies. Meanwhile, the inventory of epistemological beliefs developed in the research was revealed five factors, namely "construction of knowledge," "context of knowledge," "improved capacity," "increased study" and "seeking for the root," which are interacted (.38~.84) with common load beyond the second-order factor "mature epistemological belief." The mature belief and naive belief are not the two poles of the same dimension, but two totally different dimensions. In addition, the research also supports Hofer and Pintrich's (1997) points of views, the five factors are loaded above the two second-order factors of "the nature of knowledge study" and "experience of knowledge study" respectively. The research is of exploratory and descriptive nature, thus expects studies of cross validation with data of same population but different samples for further verification of this research.

Keywords: Epistemological beliefs, Construct validity, Factor analysis

Introduction

I. Philosophical epistemology and personal epistemological belief

Epistemology is originally a branch of philosophical study, the arguments on knowledge by the ancient western scholars—the founders of philosophical epistemology basically concentrated on what are true and reliable knowledge and what are untrue and inappropriate knowledge. Since everybody is seeking for true knowledge, the definition of "knowledge" (what are the natures of knowledge?) and the identification of meta cognition (conditions of knowledge existence) seem significant.

If we comprehensively analyze the ancient exploratory history of epistemology, and assume the exploratory history as a miniature of the development of personal epistemological belief, then from the major impact and influence of philosophical epistemology to the civilization and science may further assume each unique personal epistemological belief [EB], which may exerting some unknown important influence on his/her study, creation, thinking, motive and self-adjusted study.

II. The epistemological belief influences cognitive learning.

Individual belief towards the nature of knowledge and learning is related to the individual meta cognitive activities, the research gives several factors of epistemological belief influencing students' academic performance, e.g.: Mathematical Problems (Schoenfeld, 1983, 1985), Perseverance in Face of Difficult Learning (Dweck & Leggett,1988; Qian & Alvermann, 1995), Reading Comprehension, Reading Monitoring and Explanation of Information (Ryan, 1984; Schommer, 1990). The students' epistemological beliefs influence their motive beliefs, cognitive strategies and learning results (Hofer & Pintrich, 1997; Schommer, 1990). Thus, the discussion on learning theory in educational psychology research cannot

overlook the influences on individual study, creation, thinking, motive and self-adjusted learning from individual epistemological belief. E.g. L. Vygotsky's theory on social epistemological development which is pinned great attention in recent years held that the knowledge enrichment was a leap from actual level of development to possible level of development, which was also influenced by social interaction, language communication, as well as historical and cultural contexts, i.e. Vygotsky's "value added" intellectual theory. The epistemological belief implied in the equally popular H. Gardner's multiple intellectual theory argued intelligence was multiple, so the intellectual—cognitive object should have been multiple, which meant that the source of knowledge should have been multiple, instead of being limited within the knowledge capacity increase and intellectual improvement stimulated by training of symbolic logic, language thinking and spatial concept. Other activities as rhythm exercise, fine arts, music, self-examination, interpersonal interaction and access to nature all could be important bases to acquire knowledge and stimulate cognition. J. Bruner emphasized in his discovery learning theory that knowledge came from individual discovery of errors, but not the one-way instillation by teachers (Zhang, 1996). The following constructionist's epistemological theory significantly influenced teaching theory, which can be proved by the popular constructionism teaching method in the recent years in Taiwan. The constructionists think that the source of knowledge is the result of individual thinking, but not anything from outside. Thus, they think the absolutely real knowledge does not exist at all, everything depends on personal exploration. From the above ideas, we can learn that the part relating to learning theory in educational psychology include some epistemologies, each with their own emphasis.

III. The development of overseas research on epistemological belief

In the past ten years, researchers paid increasing attentions to the development of students' knowledge, as well as epistemological belief and theory (which is also named as "personal epistemology") (e.g. Hofer & Pintrich, 1997, 2002; Schommer, 1994). Most of these researches on knowledge and belief started from Perry's (1970) research on university students. His research showed that the students believed that knowledge consisted of simple and constant facts at the first place, which was held by some experts, later they made progress and began to believe that knowledge was organized by different complex and trial concepts with reasoning. After Perry, researches on epistemological beliefs diverged into two main directions, one inherited Perry's ideas on development of student's epistemological belief, trying to find the thinking phases of each epistemology (e.g. Baxter, 1992; King & Kitchener, 1994), which mainly adopted interviews as the research method. The other was initiated by Schommer (1990), focusing on horizontal relation between student's epistemological belief and their cognitive experience of lessons, academic performance (Stromso & Braten, 2003) instead of vertical development of personal epistemological belief. The research on epistemological beliefs already has 35 years of history in foreign countries from Perry's (1970) researches on interview, and has 15 years of history from Schommer's (1990) development on epistemological belief questionnaire [EBQ].

Recently, Hofer and Pintrich (2002) published Epistemological Belief: Psychology of Knowledge & Learning Belief, introducing epistemological beliefs from four factors: (1) Conceptual model of personal epistemological theory; (2) Discussions on theory and concept; (3) Discussion of research on methodological layers of personal epistemological theory; (4) Influences to different subjects by epistemological belief.

IV. Schommer's research and dispute

The 63-item EBQ developed by Schommer (1990) in 1990 included 12 scales and five aspects, with each assumptive aspect being represented by more than two scales. The 12 sub-scales included "look for single answer (Item 11)," "avoid unification and integration (Item 5)," "certain knowledge (Item 6)," "not to criticize authority (Item 6)," "depend on authority (Item 6)," "cannot grasp (Item 5," "success is irrelevant to efforts (Item 4)," "learning ability is something one is born with (Item 4)," "learning is a fast process (Item 5)," "the first study (Item 3)," "dedication and efforts are wastes of time (Item 2)." The 5 aspects included "simplicity," "certainty," "source of knowledge," "controllability of knowledge acquisition" and "speed of knowledge acquisition." Later she and her colleagues took out four fixed factors by analysis, and specified by negative ideas as "simple knowledge," "certain knowledge," "fixed ability" and "quick learning," among which only knowledge source (from external authority to self-sense) did not appear in the result of factor analysis (Stromso & Braten, 2003). What deserves our attention is Schommer's research belongs to a kind of exploratory structure, targeting at exploring possible aspects of epistemological belief, and attempting to measure them. The following researchers tried to duplicate Schommer's research by factor analysis but found many different variations, the aspects of epistemological belief from different samples seemed different from each other. Therefore, how many aspects are included in the 63-item EBQ developed by Schommer, and what are their relations among different aspects, and whether we could explore a stable psychological structure named as "epistemological belief."

Schommer's research method was also questioned. The above process by which Schommer took out four factors is to directly divide the 63 items into 12 scales according to the construction when the subject was designed, and to conduct factor analysis with the total score of the 12 scales as 12 variables instead of with the 63 items as variables. This practice has several possible problems in terms of

examination theory: (1) The quality of each item in the scale cannot gain the support from the actual data by this process. (2) Whether the items in each scale can represent the construction of the scale tag was also questioned, i.e. the aspects represented by each subject may be different from the ones designed by the researcher. (3) The quality of subjects in each scale, such as intercommunity and structure load, all becomes unknown. Thus, Schommer's factor analysis method might have made mistake on the number of factors and their interpretation. Later, Qian and Averman (1995) directly removed the items of "knowledge source" aspect from Schommer's EBQ, and took out three factors after factor analysis: "simple-certain knowledge," "fixed ability" and "quick learning." Hofer (2000) got four factors with the 32-item SEQ (Schommer's Epistemological Questionnaire), but which are different from Schommer's four factors in terms of interpretation. Schraw, Bendixne and Dunkle (2002) got five factors by 63-item SEQ, among which "certain knowledge" and "fixed ability" were same as Schommer's results (1990), while other three factors of incremental learning, certain knowledge and integrative thinking were different from Schommer's results. These follow-up researches' results diverged because of different material analysis method and different tested samples, from which it can be learned that the previous epistemological belief research may cause inconsistent conceptual construction of epistemological belief because of the (cultural) differences of samples, thus, it is necessary to develop a "Epistemological Belief Questionnaire" suitable for students in Taiwan with vocational senior school students in Taiwan as samples, by which to set up theoretic construction of epistemological belief suitable for Taiwan culture. In addition, the previous research showed the necessity to discuss the test of epistemological belief by more precise method and to clarify the theoretical construction because of the defects of data analysis method.

V. Research objective and items to be answered

In Taiwan, the research on personal epistemology or epistemological belief is still in an initial stage, thus lacks of a questionnaire of excellent psychological measurement nature to test personal epistemological belief. Hence, the research proposes to work out an EBQ suitable for the senior vocational school students in Taiwan with reference to Schommer's (1998) epistemological belief questionnaire [EBQ], and conduct data analysis so that to determine basic quality and construction validation.

Method

I. Research object and measurement process

The research adopted convenient sampling method to select samples, with students of a national senior vocational in Taizhong County as the testing samples. Totally 296 questionnaires were distributed and 296 were recollected, among which 265 were effective questionnaires from 201 (76%) boy students and 64 (24%) girl students except 31 incomplete or randomly-finished ones (The effective rate is 90%); the testees' scores in the basic examination for national middle schools ranged from 170 to 195, which proved that the participants' knowledge learning ability ranked medium and medium upper level among the total. The questionnaire measurement was conducted with class as the unit. The researchers asked the teachers to conduct the measurement in class upon their consents. The tested students filled the computer answer sheet to reduce the possibility of errors caused by manual data input.

II. Edition of the scale

The main items in the scale are from Schommer's (1990) EBQ, which consists of 12 scales and 63 items. Researchers with different cultural backgrounds first revised it before with reference to Schommer's (1998) suggestions before using it, since some

items are easy to understand in American English, but literal translation may cause difficulties in comprehension for the answerers with different backgrounds. Thus, the researcher referred to the original 12 aspects of EBQ, and deleted some of culture-specific items, as well as edited some items targeting at each theoretical aspects of "epistemological belief" as possible, so that to fit the content of the questionnaire into the learning experience of senior vocational school students in Taiwan. We invited 3 vocational school students to answer after the first draft was finished, in order to determine whether the wording of the items were appropriate and whether the testees could accurately understand the items. The researchers then revised and finished the pre-test scale with reference to the advices on revision, including 52 items. For each aspect, there are 4-5 items. The pre-test questionnaire adopted Likert-type Five Point Scale, in order to determine whether the testees have unusual responses (e.g. randomly choose "5 totally agree" for all or randomly choose "2 disagree" for all), and to improve the testees' cognitive sensitivity (with positive and negative items paralleled), half were negative items. Schommer's (1998) original scale made naïve epistemological beliefs as positive items and sophisticated epistemological beliefs as negative items, the negative items included Item 1, 3, 4, 5, 6, 9, 14, 17, 21, 25, 28, 39, 40, 44, 47, 48, 49 and 52 among the total 52 items, the rest 26 were positive items.

III. Material analysis

The data analysis is to conduct project analysis first, then to examine the measurement characteristics of each item by SPSS software after the questionnaires being recollected, coded and input into computer, including: percentage of missed items, average, standard deviation, skewness, identification of extreme group t, relation between items and total scores, to set and sample a main component to conduct factor

analysis, so that to obtain the factor load on the common factor (epistemological belief) of each item. These analyses aimed at data screening, to determine the items in the scale were of excellent psychological measurement characteristics to be the basis for further analysis, then used exploratory factor analysis (EFA) to select items, by which to explore the potential construction of epistemological belief. Finally they used confirmatory factor analysis to "describe" the factor construction of epistemological belief questionnaire. Why the word "describe" was used instead of "confirm" factor construction is because the sample data used in this stage is just same as those used in exploratory factor analysis without re-sampling. Therefore, in terms of concept, the research used exploratory factor analysis to "explore" the potential factor construction of the epistemological belief questionnaire, and confirmatory factor analysis to "describe" the factor construction of the same samples. In confirmatory factor analysis, the research used AMOS 5.0, estimated the model parameter by maximum likelihood (ML), and appreciated the overall fit of the model by three kinds of fit index: chi-square(x^2) statistics, comparative fit index (CFI) and Root Mean Square Error of Approximation (RMSEA). Although the chi-sguare (x^2) statistics has remarkable defects when the samples exceed 200, it fits for the comparison of advantage and disadvantage between nested models, thus the research reports chi-sguare statistics. CFI is the index is used to compare target model and baseline model (or independent model), the so-called baseline model means all the variables in the model are not relevant with each other (Bentler, 1990; Hu & Bentler, 1995). The value of CFI ranges between 0 and 1 above 0.95 stands for the appropriate fit of models. The RMSEA is characterized by considering the complexity of the model, whose value should be below 0.05 (Browne & Cudeck, 1993).

Results and Discussion

I.　　Project analysis

The result of project analysis is listed in Appendix I, which shows that the items with missing rate above 8% include Item 26, 43, 41, 27, 18, 8, 13, 33, 23, 45, 29, 32, 42, 37, 11 and 30. The section of ± 1.5 standard deviation of the average is $2.68\pm(1.5\times 0.24)=2.32\sim3.04$, the average of the items falling outside the section represents the average of the items skewed, with the standard the skewed items include Item 10, 4, 28, 3, 9, 5, 39, 12, 44, 48, 40, 1, 11, 7, 35, 22, 46, 36 and 50. On standard deviation of items, the value below 0.75 means small variance of the items, including Item 38, 14, 39, 32, 30 and 4. On skewness, items with skewness coefficient above 0.8 or below -0.8 include Item 13, 32, 41, 27, 26 and 43. On examination of extreme group t, the t of Item 7, 22, 26 and 36 does not reach the standard of double tailed $\alpha = .05$, which means the four items are of poor discrimination level. The items with correlation of individual item and the scale below 20 include Item 46, 35,14, 17, 7, 22, 40, 38, 36, 19, 16, 6, 20, 50, 21, 49, 51 and 15. What deserves our attention is: the pre-test epistemological belief questionnaire has 52 items altogether including 26 positive items and 26 negative items. To conduct principal component analysis once for all, and limit to take out a factor, items with results describing mature epistemological beliefs have positive factor loads, and those with results describing naive epistemological beliefs have negative factor loads. Although all the positive items are scored reversely, the score of each item shall stand for naïve EB. However, the result of factor analysis shows the relation between the positive and negative items, and cannot be reduced into a potential construction by the reverse scoring method. This result means that the mature EB and naïve EB do not have totally reverse relation, i.e. a person may hold some mature EB while holding some other naïve EB, the finding is

consistent with Schommer's (1994) point of view. Theoretically, she advocated multi-dimensional EB, and the coexistence of all beliefs. Based on this, the researchers put the Item 26 representing mature EB (cancel its original reversed score) into exploratory factor analysis, and ignored the Item 26 representing naïve EB.

II. Exploration of construction validity & reliability of internal consistency

The research used exploratory factor analysis (EFA) to select items, by which to explore the potential construction of EB. First we put the Item 26 representing mature EB into principal component analysis, and limited to take out a factor, the factor load of Item 16, 19, 20, 24 and 38 is below 30. After the 5 items being deleted, we put the rest 21 items into principal component analysis, and took out principal components with characteristic value above 1 by maximum variation method. Finally we took out 5 principal components with characteristic values of 6.13, 1.53, 1.39, 1.12 and 1.07, the five principal components could be explained as 53.64 % of the total variation. But Item 10, 12 and 15 are loaded with 3 different principal components (and the structural loads are all beyond 0.3). The researchers first deleted these items, and put the rest 18 items with unchanged conditions into principal component analysis, finally they took out 5 principal components with characteristic values as 5.00, 1.52, 1.36, 1.09 and 1.03, the explained total variation was 56%, the factor loads of the maintained items were listed in Table 1. What deserves our attention is that the Item 4, 9 and 44 in Table 1 tend to load two principal components (structural load >.40), possibly because the aspects of EB may be highly interrelated, or the 3 items are loaded at several factors (Thompson, 2004). The researcher named the 5 principal components as "knowledge construction" (Item 3, α =.61), "knowledge context" (Item 4, α =.68), "incremental ability" (Item 4, α =.65), "incremental learning"

(Item 4, α =.65) and "deep learning" (Item 3, α =.48), the reason for the low reliability for each scale is that there were only 3-4 items for each scale (Shavelson & Webb, 1991), but the α reliability of the 18 items in the scale reached .85. See the zero-order correlation, average and standard deviation of these 18 items in Table 2.

Item	Factor load					
	1	2	3	4	5	$\underline{h}^2$
P40: I don't think there is any knowledge remains absolutely unchangeable.	**.76**	-.00	-.02	.11	.03	.59
P28: I believe that the talents are not the ones who know the answer, but the ones who know how to find the answer.	**.63**	.25	.27	.06	.01	.53
P39: I believe that many things are complicated but interesting.	**.60**	.17	-.01	.27	.31	.55
P5: The meaning of certain word can only be correctly comprehended only within its context.	.14	**.69**	-.04	.38	-.03	.64
P3: The more times I read, the more I get from the books I have read.	.36	**.63**	.16	.06	.25	.62
P4: I think we should integrate the contents of all chapters even all lessons in all fields in learning as more as possible.	.48	**.61**	.18	-.05	-.09	.65
P6: If I haven't fully understand some knowledge at the first place, I believe more reading would help.	-.12	**.60**	.19	.12	.31	.53
P21: I think the experts' abilities are fostered postnatally.	.07	-.07	**.78**	.13	.08	.65
P1: Academically accomplished students must have experienced long-term efforts.	-.04	.31	**.66**	.01	-.11	.55
P9: I believe in "no pain, no gain."	.24	.43	**.52**	.14	.11	.54
P25: I can smoothly finish some difficult assignments if I concentrated for long.	.35	.13	**.50**	.14	.26	.48
P52: I believe that knowledge is conceived after personal experience of mistakes.	.06	.21	-.03	**.80**	.12	.71
P44: I believe that the success comes from "10% inspiration and 90% diligence."	.05	.01	.45	**.56**	.05	.52
P48: I think knowledge learning requires persistent efforts.	.37	.09	.21	**.52**	.21	.51
P49: In learning, I believe careful and slowed work yields full comprehension.	.28	.13	.27	**.43**	.17	.39
P17: I want to study the issues very much as I realize that even the most authoritative experts	.24	.02	-.04	-.10	**.74**	.61

disputed over them.

P47: For me, the most complicated issues usually aroused my greatest interests.	.06	.03	.11	.28	**.73**	.63
P14: I usually prefer to get to the bottom of things in learning.	-.03	.15	.06	.14	**.52**	.32

Table 1 The structural loads and intercommunity of the 18-item post-transformation principal

component analysis of the EBQ

Note: The bold numbers stand for the highest factor loads. Factor 1=knowledge construction；Factor 2=knowledge

context；Factor 3=incremental ability；Factor 4=incremental learning；Factor 5=deep learning. $\underline{h}^2$ stands for the

intercommunity.

Table 2 The zero-order correlation, average and standard deviation of the 18 items in

the EBQ

Items	P6	P47	P14	P17	P49	P48	P44	P52	P25	P9	P1	P21	P4	P3	P5	P39	P28	P40
P6	1.00																	
P47	0.21	1.00																
P14	0.12	0.25	1.00															
P17	0.16	0.26	0.10	1.00														
P49	0.18	0.18	0.11	0.11	1.00													
P48	0.15	0.34	0.13	0.17	0.35	1.00												
P44	0.18	0.15	0.11	0.13	0.21	0.27	1.00											
P52	0.14	0.15	0.09	-0.04	0.20	0.23	0.20	1.00										
P25	0.26	0.23	0.11	0.14	0.30	0.32	0.20	0.16	1.00									
P9	0.27	0.08	0.14	0.10	0.32	0.25	0.34	0.14	0.37	1.00								
P1	0.20	0.09	0.07	0.08	0.25	0.20	0.23	0.07	0.19	0.36	1.00							
P21	0.13	0.18	0.14	0.07	0.21	0.21	0.25	-0.01	0.32	0.19	0.36	1.00						
P4	0.17	0.04	0.06	0.05	0.19	0.24	0.14	0.06	0.25	0.41	0.29	0.17	1.00					
P3	0.29	0.22	0.08	0.19	0.29	0.34	0.19	0.09	0.32	0.43	0.31	0.10	0.45	1.00				
P5	0.31	0.20	0.05	0.13	0.24	0.29	0.19	0.16	0.21	0.26	0.19	0.16	0.42	0.36	1.00			
P39	0.14	0.29	0.05	0.15	0.31	0.31	0.08	0.19	0.27	0.23	0.08	0.09	0.21	0.31	0.19	1.00		
P28	0.13	0.09	0.06	0.12	0.28	0.28	0.20	0.16	0.32	0.32	0.29	0.21	0.43	0.36	0.27	0.28	1.00	
P40	0.08	0.07	-0.02	0.10	0.18	0.16	0.15	0.06	0.18	0.17	0.10	0.14	0.22	0.23	0.19	0.31	0.29	1.00
Ma	3.62	3.23	3.05	3.18	3.44	3.68	3.71	3.58	3.63	3.84	3.67	3.43	3.91	3.85	3.88	3.80	3.91	3.67
SDa	0.82	0.78	0.72	0.79	0.76	0.75	0.88	0.74	0.86	0.95	0.88	0.95	0.74	0.79	0.75	0.71	0.78	0.88
Item	P6	P47	P14	P17	P49	P48	P44	P52	P25	P9	P1	P21	P4	P3	P5	P39	P28	P40

Note: N=265. M stands for the average; SD stands for the standard deviation. a. The discrepancies of

the averages and standard deviations with the listed values in the appendix are caused by the 31 outliers

and inappropriate response patterns in samples, deleted results, use of Rasch model of items response

theory with single-parameter detection process (Wright & Masters, 1982); In addition, all the missed

values are filled with EM algorithms. The table shows the matrix input by the following confirmatory

factor analysis, and quantitative data allowing other's duplication of the research.

III. Confirmatory factor analysis

(I) First-order confirmatory factor analysis

The researchers first constructed the assumptive model of the first-order CFA according to the results of CFA, "Model A" in short. Model A is shown as Fig. 1 with the 18 items as the observable measured variables, as well as "knowledge construction," "knowledge context," "incremental ability," "incremental learning," and "deep learning" as the first-order potential factors, the five factors are interrelated with each other. The result data and model fit well (x^2=195.67，df=125, p=.000; CFI=.91; RMSEA=.046, see details in Table 3). Except the X2 value might have reached prominence because of the larger sample number, which caused overhigh statistical power and then the null hypothesis being mistakenly refused, all the estimated parameters reached prominence (p<.01). The covaried standardized coefficients of the potential variables range from .40 to .84. The standardized factor loads are between .39 and .72. Since the CFI value being only .91 which showed the model still had the room for modification, the researchers chose one fixed parameter for release by referring to the modification index [MI] and expected parameter change [PC]. The first-selected parameter MI=11.37，PC=.15, correlating with the error terms of Item 21 "I think the experts' abilities are fostered postnatally" and Item 1 "Academically accomplished students must have experienced long-term efforts." The researchers contemplated the meaning of the question, thinking that both the error terms were correlated to some extend maybe because the two were all deductions involving the successes of the outstanding people. In addition to the model formed by posteriori parameter being called as Model A1, the overall fit level of Model A1 is

x^2=183.39，df=124, p=.000; CFI=.93; RMSEA=.043 (see details in Table 3), the fit

level is better than Model A. According to the modification index of Model A1, the researcher continued to select the correlation (MI=8.33，PC=.07) to increase the estimated error terms of Item 28 and Item 4, since both the two items mentioned "find the answer" and "integrate chapters," which represent students' active learning, thus the error item being set as correlation, the model formed after the parameter being added is called as Model A2. Table 3 shows overall fit index of Model A2 is better than Model A1, and the CFI=.94 is near to the standard of .95. Therefore, it is appropriate for the samples of the research to describe the factor construction on this 18-item EBQ by the first-order factor model, i.e. the items are loaded on the five first-order factors, and the five factors are interrelated. The covaried standardized coefficients of the five first-order factors in Model A2 are between .38 and .84; and the factor loads are between .33 and .71, see details in Fig. 1.

(II) High-order confirmatory factor analysis

Since the first-order confirmatory factor analysis showed pretty high correlation among the five first-order factors, while the researchers assumed all the five factors could represent the potential construction of "mature EB" in compilation of the questionnaire. Therefore, the researcher continued to test whether the second-order factor model was tenable, i.e. with the 18 items as observable variables, the aspects of the 5 EBs as the first-order factors and the "mature EB" as the second-order factor. The initial model is called as Model B as shown in Fig. 2, whose difference from Model A is it has removed the covariation of all first-order factors and increased with the "mature EB" as the second-order factor, all the first-order factors were loaded on the second-order factor. The fit index of data and model was x^2=207.57, df=130, p=.000; CFI=.90; RMSEA=.048, see details in Table 3 Model B), and all the estimated parameters reached prominence (p<.001). However, since the CFI being only .90, which shows that the model still had room of modification. The researchers

first allowed the error correlation between Item 21 and Item 1 to be freely estimated (MI=10.84, PC=.14) after referred to the result of the first-order confirmatory factor analysis, by which to form Model B1, whose the fit index is shown in Table 3, and CFI=.92. The researchers then further referred to the modification index of Model B1 and the result of the above first-order factor analysis, and decided to release the error terms of Item 28 and Item 4 for free estimation, by which formed Model B2, whose fit index being x^2=184.14, df=128, p=.001; CFI=.93; RMSEA=.041. Although CFI=.93 did not reach the preset standard of .95, Table 3 showed that Normed x^2=1.44 < 2 in Model B2, thus the researchers thought that Model B2 was tenable. All the estimated value of parameters of Model B2 have reached prominence, the loads of the item loads at the first-order factor were between .37 and .71, and the loads of the first-order factor loads at the second-order factors were between .54 and .93, see details in Fig. 2. The result of the second-order confirmatory factor analysis showed that the five scales can be loaded on the high-order factor of "mature EB" indeed.

Fig. 1: First-order CFA model (Model A2)

Fig. 2: Second-order CFA model (Model B2)

Fig. 3: Second-order CFA model (Model C2)

"constr": knowledge construction "context": knowledge context "incr_ab": incremental ability "incr_le": incremental learning "deep_le": deep learning "EB": mature EB. "NK":

Nature of knowing. "NP": Nature of knowing process. The number in the rectangular frame stands for item no. All the values are all standardized estimated parameters.

Table 3 Fit level index of the confirmatory factor analysis model

	χ^2	df	p	χ^2/df	CFI (RNI)	RMSEA (90% CI)	TLI (NNFI)	ECVI	CN ($\alpha=.01$)
				First-order CFA					
Model A	195.67	125	.000	1.57	.91	.046 (.033~.058)	.89	1.09	223
Model A1	183.39	124	.000	1.48	.93	.043 (.029~.055)	.91	1.05	236
Model A2	173.52	123	.002	1.41	.94	.039 (.025~.052)	.92	1.02	248
				Second-order CFA					
Model B	207.57	130	.000	1.60	.90	.048 (.035~.059)	.89	1.10	217
Model B1	195.87	129	.000	1.52	.92	.044 (.031~.056)	.90	1.06	229
Model B2	184.14	128	.001	1.44	.93	.041 (.027~.053)	.92	1.02	242
Model C	205.21	129	.000	1.59	.91	.047 (.035~.059)	.89	1.10	218
Model C1	193.87	128	.000	1.51	.92	.044 (.031~.056)	.90	1.06	229
Model C2	183.79	127	.001	1.45	.93	.041 (.027~.054)	.92	1.03	240

Fig. 2 showed that the confirmatory factor analysis model of Model B2 fitted the data very well. The researchers further wanted to discuss Hofer and Pintrich's (1997) points of views on the basis of Model B2, thinking that Schommer's (1990) EB could be divided into two types as nature of knowledge and nature of knowing. What is corresponding to the research is that the research extracted five principal components from the EBQ by EFA, namely they were "knowledge construction," "knowledge context," "incremental ability," "incremental learning" and "deep learning" respectively. The first two describe the nature of knowing, the latter three describe the experience of knowing, the two types perfectly fits with Hofer and Pintrich's (1997) points of views. Therefore, the third CFA model constructed by the researcher is called as Model C, which is removed the second-order factor EB of Model B and replaced by NK and NP, see details in Fig. 3. The initial model is called as Model C as shown in Fig. 3 (but the covariation of error term should be removed), whose difference from Model A is it has cancelled all the covariations of the first-order factors, but has increased two second-order factors (nature and experience of knowing), in which the loads of "knowledge construction" and "context" were on the second-order factor "nature of knowing"; and the "incremental ability," "incremental learning" and "deep learning" were loaded on the second-order factor "experience of knowing." The fit index of data and model was χ^2=205.2, df=129, p=.000; CFI=.91; RMSEA=.047, see details in Table 3 Model C), and all the estimated values of parameters have reached prominence (p<.001). However, since CFI was only .91, which showed

the model still had room for modification. The researchers referred to the result of the first-order confirmatory factor analysis, first allowed the error correlation between Item 21 and Item 1 to be freely estimated (MI=10.48, PC=.14), by which to form Model C1, the fit index was shown as Table 3, the CFI was increased to .92. The researchers further referred to the modification index of Model C1 and decided to release the error terms of Item 28 and Item 4 for free estimation (the reason is same as the previous one), by which to form Model C2, and the fit index of Model C2 being x^2=183.79, *df*=127, *p*=.001; CFI=.93; RMSEA=.041, although CFI=.93 did not reach the standard of .95, Table 3 showed that Normed x^2=1.45 < 2 in Mode C2, thus the researchers thought that the Model C2 was tenable. All the estimated parameter values of Model C2 have reached prominence, and the loads of the item loads on the first-order factor were between .32 and .71, while the loads of the first-order factor loads on the second-order factor were between .54 and .94, the covariation of the two second-order factors was .97, see details in Fig. 3. The results of Model C and C1 showed the five scales were loaded on the two second-order factors of "nature of knowing" and "experience of knowing" respectively, and both of the factors had pretty high positive correlation.

Conclusion

The research first briefly introduced the disputes over the conceptual construction and measurements of EB by the foreign educational psychology field, and revised the EBQ interpreted by Schommer (1998) according to her advices. The original EBQ included 5 aspects, 12 scales and totally 63 items. The researcher edited the 52-item EBQ for middle school students by referring to the 63 items, which included half positive items and half negative items. But the relation between positive items and negative items couldn't be reduced into the same construction through reversed scoring for negative items in project analysis, which might have had two possibilities: first, the two poles of EB (mature EB and naïve EB). Since their natures are different, it is necessary to differentiate EB as two dimensions (but not one) to describe in expression of EB. Second, there is method effect between positive and negative items (Dunbar,

Ford, Hunt, & Der, 2000; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), such as items addressing the initiation of self defense mechanism representing naïve EB. The two possibilities are still expecting for further research and clarification in the future. In view of the possibility to stimulate personal self defense mechanism when the researchers involve in answering the items of naïve EB, which may distort the intrinsic personal status on EB, i.e. which may distort the measured object of EBQ, the researchers only analyzed 26 terms representing mature EB. The 26 items for naïve EB can only be analyzed in the future, as well as the relationship and significance of the two. The researcher only analyzed the 26 items of mature EB as its object in order to avoid overcomplicated EB measurement model, which first deleted 8 items by exploratory factor analysis, with the rest 18 items for the follow-up examination of construction validity.

On exploring the potential construction of EB, the 18 items concerning mature EB construction were found to take out five principal components after the exploration by oblique rotation of the maximum variation method for principal component analysis, the researcher named them as "knowledge construction," "knowledge context," "incremental ability," "incremental learning" and "deep learning." The first two represent the nature of knowledge, the latter three represent the attitude of knowing, which are same as Hofer and Pintrich's (1997) discussions. The five scales are of strong co-variative relationship, showing that the oblique rotation is appropriate, and the factor load is better to be described by structural load than by group load, because the latter preset each item loaded on only one factor. But in the state of factors relating to oblique rotation, this expression method may distort the true relationship between factors and items (Thompson, 2004).

On description of EB factor construction, the research developed Model A (A1 and A2 are its modification models, A, A1 and A2 are jointly named as Model A in brief, the following ones are same), Model B (B1 and B2 are its modification models), Model C (C1 and C2 are its modification models). The three models of type A fit well with data, indicating that the 18 items in EBQ can be loaded on the five interrelated factors as knowledge construction respectively.

Type B model further indicates that the five factors are not interrelated, actually they can be loaded on the same high-order factor, which is named as "mature EB." According to Hofer and Pintrich's (1997) instructive points of view, the five first-order factors can be categorized as two, one is the nature of knowing, on which the knowledge construction and context are loaded, the other is the experience of knowing, on which the incremental ability, incremental learning and deep learning are loaded. Type C model also fits well with data, supporting Hofer and Pintrich's (1997) points of view. The common ground of Model A1, B1 and C1 is that the three models all released the covariative parameter between the error terms of Item 21 and Item 1, and the common ground of Model A2, B2 and C2 all released the covariative parameter between the error terms of Item 4 and Item 28. The two posteriori parameters contribute a lot to the improvement of overall fit level, also these modifications are of theoretic significance, and can be made the foundation for future revision of EBQ.

The limits of the research and the advices for future research include: (1) As we explore the potential construction of the actual materials on EBQ, sampling variability is a difficult problem. Exploratory factor analysis (EFA) depends on samples, e.g. there are 296 samples involved in this research, if 250 samples were randomly selected for exploratory factor analysis, the number of and group type of factors may be different from the current results. And if by confirmatory factor analysis, although the factor group type can be fixed to test the overall fitness of model, the estimated free parameter and internal consistency reliability may differentiate with different samples. In this way, to confirm the construction validity and reliability of EB still requires cross validation the research result through resampling, or further discussion on influences caused by sampling variation on model fitness and parameter estimation. Further, increase of sample number or random sampling all help to overcome the instability of analysis result caused by sampling variation. (2) The research only used single sample to explore the potential construction of EBQ, although it used confirmative factor analysis, in nature it was still descriptive (but not confirmatory) for it lacks of cross validation process. Therefore, it is necessary to collect materials of representative testees of the same population to test the potential construction of

EBQ developed by the research. (3) The concept of EB may be multi-dimensional, since the "mature" EB and "naïve" EB cannot be reduced into single dimension through reversed scoring, in the future maybe we must include the "naïve EB" into the research and discuss the relationship between the mature EB and it, as well as how the two seemingly controversial beliefs coexist. Maybe the EB is situation-specific, thus the EB may be different in different situations. The researchers also considered it more difficult to measure students' naïve EB than to measure their mature EB, since the participants may be in self-defense mentality when answering items concerning naïve EB, which may cause inaccurate measurement.

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Item no.: Subject	Missing examination	Average	Standard derivation	Skewness	Examination of extreme group t	Correlation[a]	Factor load[b]
p1: Academically accomplished students must have experienced long-term efforts.	4.1%	2.31	0.90	0.29	-5.78	0.40	0.40
p2: I think I can do a better job if the teacher can minimize those abstract reasoning but directly tell me the conclusion instead.	7.8%	2.93	0.85	0.72	-2.33	0.22	-0.17
p3: The more times I read, the more I get from the books I have read.	3.4%	2.10	0.78	0.35	-9.84	0.40	0.62
p4: I think we should integrate the contents of all chapters even all lessons in all fields in learning as more as possible.	2.7%	2.07	0.74	0.45	-6.02	0.25	0.59
p5: The meaning of certain word can only be correctly comprehended only within its context.	2.7%	2.11	0.75	0.37	-4.88	0.27	0.55
p6: If I haven't fully understood some knowledge at the first place, I believe more reading would help.	1.7%	2.37	0.83	0.20	-3.56	0.12	0.47
p7: Whether I can understand some knowledge depends on whether this is the first time to learn them.	5.7%	3.21	0.85	0.34	-1.19	0.00	-0.26
p8: Even if not understand, you are still ready to accept the standard answer provided by your teacher.	13.5%	2.74	0.79	0.79	-5.55	0.28	0.01
p9: I believe in "no pain, no gain."	2.7%	2.10	0.93	0.47	-10.09	0.43	0.59
p10: I think the learning ability may improve with the increased learning experience.	2.0%	1.99	0.80	0.60	-9.35	0.39	0.65
p11: I think it does not make sense to solve the problems without clear answer.	8.4%	3.07	0.82	0.55	-4.72	0.32	-0.21
p12: The best way to understand your textbook is to re-organize information in accordance with your own cognitive structure. (E.g.: to sort out notes).	2.4%	2.22	0.79	0.39	-6.26	0.26	0.59
p13: Knowledge is unchangeable.	11.8%	2.79	0.79	0.86	-3.24	0.37	-0.16
p14: I usually prefer to get to the bottom of things in learning.	3.7%	2.92	0.72	-0.33	-2.93	-0.09	0.28

Item no.: Subject	Missing examination	Average	Standard derivation	Skewness	Examination of extreme group t	Correlation[a]	Factor load[b]
p15: I think a course which specifically teaches you learning skills would be practical.	3.7%	2.34	0.80	0.12	-5.17	0.19	0.51
p16: I always question whether the materials or dissertations in textbooks are correct.	3.4%	2.56	0.80	0.11	-2.21	0.11	0.30
p17: I want to study the issues very much as I realize that even the most authoritative experts disputed over them.	5.7%	2.80	0.80	-0.24	-3.26	-0.02	0.37
p18: I think the rapid learning is the most ideal state of learning.	13.9%	2.97	0.91	0.70	-5.88	0.35	-0.19
p19: I prefer to find possible answers by my own reasoning once I encounter difficult problems in textbook.	3.7%	2.64	0.91	-0.04	-3.98	0.10	0.26
p20: What you can be sure is there is nothing for sure.	7.1%	2.65	0.85	-0.22	-3.63	0.12	0.24
p21: I think the experts' abilities are fostered postnatally.	4.7%	2.54	0.95	0.04	-4.76	0.13	0.43
p22: I don't like films without ending like Roshomon.	4.4%	3.46	0.88	0.08	0.61	0.02	-0.38
p23: I think too much time investment on difficult problems may finally turn out to be a waste of energy.	9.8%	3.01	0.89	0.51	-5.83	0.39	-0.23
p24: I think all the existing knowledge is contemporarily correct.	3.0%	2.56	0.84	-0.03	-1.53	0.23	0.36
p25: I can smoothly finish some difficult assignments if I concentrated for long.	4.7%	2.34	0.87	0.32	-7.11	0.28	0.57
p26: I think students of ordinary ability cannot make outstanding achievements even if they work hard.	26.4%	2.61	0.78	1.00	-6.69	0.46	-0.07
p27: The publicly accepted facts will still hold water in the future.	15.2%	2.74	0.76	0.92	-4.36	0.27	-0.15
p28: I believe that the talents are not the ones who know the answer, but the ones who know how to find the answer.	3.7%	2.07	0.79	0.60	-9.57	0.34	0.58
p29: I think repeated reading on some difficult articles is a waste of time.	9.5%	2.82	0.87	0.77	-8.36	0.48	0.00
p30: I think knowledge is exact and unchangeable principles in books.	8.4%	2.79	0.73	0.64	-4.87	0.37	-0.13
p31: I think the tips of learning cannot be grasped by teaching or simply cannot be	7.8%	2.89	0.96	0.74	-3.53	0.23	-0.22

learned.

Item no.: Subject	Missing examination	Average	Standard derivation	Skewness	Examination of extreme group t	Correlation[a]	Factor load[b]
p32: I believe all the knowledge in textbooks is correct.	9.1%	2.64	0.72	0.90	-4.90	0.36	-0.17
p33: I think learning ability is something one was born with.	10.5%	3.01	0.86	0.48	-4.73	0.40	-0.26
p34: I think the knowledge in textbooks is always in bits and pieces which is hard to integrate.	4.4%	3.04	0.82	0.46	-3.67	0.36	-0.30
p35: I believe the first target of learning is to memorize details of knowledge.	3.7%	3.48	0.79	-0.03	2.13	-0.13	-0.53
p36: I think the main reason for the experts to be experts is they have some special geniuses in their fields which are absent in common people.	4.7%	3.39	0.92	-0.04	-1.01	0.07	-0.39
p37: Excellent students usually understand things faster.	8.8%	2.87	0.80	0.50	-5.93	0.28	-0.10
p38: I think sometimes experts' advices need to be questioned, too.	2.0%	2.53	0.70	-0.02	-3.42	0.06	0.34
p39: I believe that many things are complicated but interesting.	2.4%	2.16	0.72	0.57	-6.37	0.36	0.56
p40: I don't think there is any knowledge remains absolutely unchangeable.	4.1%	2.31	0.89	0.41	-4.86	0.06	0.42
p41: I think that bright students can make excellent achievements without efforts.	21.6%	2.75	0.85	0.90	-7.08	0.55	-0.17
p42: I consider it as proud and inappropriate to challenge teachers or authorities.	8.8%	2.94	0.83	0.58	-5.77	0.20	-0.05
p43: I think the talent gets the answer but everyman does not.	23.3%	2.67	0.84	1.00	-8.75	0.47	-0.03
p44: I believe that the success comes from "10% inspiration and 90% diligence."	4.7%	2.26	0.89	0.37	-6.45	0.23	0.46
p45: More reading of textbooks does not enable me more knowledge.	9.8%	2.87	0.89	0.71	-8.97	0.45	-0.10
p46: I believe that most of the languages have their "clear and unique" meanings.	3.0%	3.40	0.81	0.05	2.23	-0.16	-0.41
p47: For me, the most complicated issues usually aroused my greatest interests.	5.1%	2.73	0.80	-0.31	-4.60	0.26	0.38
p48: I think knowledge learning requires persistent efforts.	3.7%	2.27	0.77	0.38	-7.97	0.33	0.57
p49: In learning, I believe careful and slowed work yields full comprehension.	3.0%	2.51	0.79	0.07	-5.31	0.14	0.58

Item no.: Subject	Missing examination	Average	Standard derivation	Skewness	Examination of extreme group t	Correlation[a]	Factor load[b]
p50: When I encountered difficult questions, I would prefer to ask the ones who may have the answer.	3.4%	3.38	0.82	0.00	-2.15	0.12	-0.30
p51: I believe that most existing knowledge is absolutely correct.	6.4%	2.96	0.85	0.39	-4.46	0.16	-0.21
p52: I believe that knowledge is conceived after personal experience of mistakes.	0.7%	2.39	0.77	0.36	-4.41	0.25	0.44
Total scale		2.68	0.24				

Note: a. The revised correlated item-total correlation coefficients provided by reliability analysis.

b. The original factor loads of single-factor of principal component analysis.

Title: The Characteristics of Victim of Bullying Behaviors in Taiwanese Students

Topic: Educational psychology

Keywords: Bullying behaviors; Victims of bullying behaviors; Parenting; Family environment

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The Characteristics of Victim of Bullying Behaviors in Taiwanese Students

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Abstract

Bullying behaviors on the campus are attracted lots of attention in recent years in many countries. The main purpose of this study was to examine the characteristics and the association of being victims of bullying behaviors of junior high schools in Taiwan. Qualitative method was used in the study. Five junior high students of being bullied were selected to be subjects. Eight main issues of family factors and personal characteristics, including family structure parents, parenting style and parent-child relation, relationship with her/his sisters and brothers, relationship with classmates and teachers, time, site and cause of the bullying behavior, form of being bullied, handling style of the school and the parents and feeling and ideas on the bullying are analyzed qualitatively in this study. The study found that the victim students of bullying behavior had bad relationships with parents and brothers and sisters. They also showed silly, weak, lonely, lower performance and helpless, resulting in being target of bullying from other classmates. Moreover, their family environment was also lack of feeling support and coherence. Finally, some

suggestions to improve counseling and education for bullied students are made according the findings.

Introduction

Bullying behaviors are widespread phenomenon at schools around the world. Accordingly, between 9 and 54% of children and adolescents are affected by bullying in Europe, United, Canada, Australia, and Japan (Baldry, 2003; Liang, Flisher, & Lombard, 2007; Smith, Morita, Junger-Tas, Oweus, Catalano, & Slee, 1999). Recently, Liang, Flisher, & Lombard (2007) found over a third (36.3%) of students were in bullying behavior, 8.2% as bullies, 19.3% as victims, and 8.7% as both bullied and bully others in South Africa. Male students were easily associated with perpetration and victimization, whereas younger boys were most at risk of victimization.

Bullying behavior is a kind of attack including occasional, short-term or frequent, long-term deliberate hurts, which is repetitive and ranging from slight teasing to serious collective violence (Clark & Kiselica, 1997；Farrington, 1993；Ireland, 2000；Sharp, Thompson, & Arora, 2000；Tattum, 1997, Woods & White, 2005). Bullying behavior may cause physical, oral or mental attacks against victims, thus it may easily psychologically terrify and hurt victims (Espelage, Bosworth, & Simon, 2000；Hoover, Oliver, & Thomson, 1993；Ireland, 2000；Oliver, Oaks, & Hoover, 1994；Peterson & Skiba, 2001).

According to the internationally prestigious scholar, Dan Olweus' point of view after lots of researches, bullying behavior includes hurtful and deliberate attack behaviors, and the behaviors often last for several weeks, months even years (Olweus, 1993). Olweus（1994, 1999） regarded bullying as exposure to the negative behaviors of one or more persons repeatedly or over time, both physically and verbally. From Olweus' definition on bullying behavior, it can be summarized at three aspects: First, on motivation, it is deliberate, hurtful attack behavior with

objective and intention; Second, on assessment of behavior result, it may hurt the victim physically or psychologically to some extent; Third, on accumulation of occurrence frequency, it is not occasional but a continuous behavior in certain period of time. In terms of frequency of its occurrence, the data of primary school and university is far less than that of secondary school. In other words, campus bullying behavior often occur among teenagers aging at 13/14 years old to 17/18 years old at schooling years.

Those who often bullied the small or the weak ones are likely to face adaptive and development difficulties in the future. The research suggests that the campus bullies may form a habit and continue to bully others on occasions beyond campus, and finally may commit crime (Bowers, Smith, & Binney, 1994；Farrington, 1993；Rutter, 1995, Woods & White, 2005).

Campus bullying behavior can be dated back to ancient times, not something surprising, but current campus bullying behavior are significantly changing in terms of nature and quantity, thus it deserves our research on its impacts and exploration on its causes to prevent it from occurrence and spreading. The campus bullying behaviors not only hurts victims instantly, but also exerts short-term and long-term negative influences to the daily adjustment and development of victims, even witnesses, their families. Because the bully may form a habit or misunderstand that attack and bullying behavior are effective, they may commit more serious attack, violent and criminal behaviors in the future. Peterson and Skiba (2001) believed that students who attacked or bullied would easily turn into criminals after adolescence. Eron and Huesmann (1984) pointed out in their research that the students regarded as bullies by their fellows were likely related to criminal records after they grew up. The criminal rate of previous "campus

conqueror" is usually much higher than that of students with no bullying behavior (Olweus, 1991). Another research suggests that 60% boy bullies from Grade 6 to 9 were sentenced for one-year imprisonment until the age of 24 years old, among which 35% to 40% were sentenced for more than three years of imprisonment (Hoover & Hazler, 1991). From the above facts, it can be learned that the bullying behavior not only influences one's behaviors in the process of growth, but also will extend to the future, such as bad behaviors, crimes and family problems, even will hamper societal security.

On the other hand, for the victim, when the bullying behavior occurs, usually, the bullied does not dare to publicly tell or appeal to the teacher in afraid of retaliation, thus the bullying behavior becomes more and more severe. The students often suffer from bullying behavior at school are usually the ones who cannot accommodate to collective life, being characterized by slow in action, small and weak body building, reserved, willful and unsociable personality. Hence, these victim students are likely to be late, be in low self-respect and confidence, as well as fall back on academic achievements, thinking lowly about themselves and looking down upon themselves. Thus they can hardly make friends and know how to acquaint with others; gradually they may lose their interests to school, regarding it as an unhappy, unfriendly and terrible place. In addition, the students being bullied at young are more likely to face the challenge from adaptability in life, such as family violence, violence crime and traffic violation (Hetherington & Parke, 1999; Ireland, 2005).

For the victim of bullying behavior, they know they may suffer from occasional bullying, worrying is the constant mental state. Once being bullied they may feel "relaxed," (at least they do not need to worry about it any more),

gradually they may only confront the bullying behavior with somewhat "indifference," thinking this approach can relieve their pain. This kind of defense mechanism is actually similar to that of the victim of "Post-Traumatic Stress Disorder" (or PTSD). Brown (1996) also believes that the victim may develop the symptom of PTSD for being exposed to the threats of violence for a long time.

One research shows that 29% victims once thought to leave school, for they are afraid of going to school, 10% of them even did so; Further, the bullies often cause the victims' low self-respect, a sense of insulation and social withdrawal; these influences may extent to their social anxiety, melancholy and difficulty in dealing with relations of the other sex at their adulthoods (Clarke & Kiselica, 1997). Some victims may commit suicide to finish the sufferings under the unconfident, insulated and helpless situation (Peterson & Skiba, 2001；Roberts & Coursol, 1996).

As the bullying behavior occurred on campus, if other students happened to see or witness the scene, while the bullying behavior was not appropriately stopped or responded, the witness may have fallen into victims as well. Some witnesses may have been forced to be another bully, and may have been the next victim for being afraid or refused to join in (Atlas & Pepler, 1998). Some students may have kept silence or withdrew for being afraid to be the next victim; Some may have imitated to become another bully; Or have formed irrational or deviated attitude or concept (Rigby, 1996). When the victim is only one person, the stander-bys may easily become temporary "oppressor" or "bully" under the pressure of "conformity." The sociological concept of "responsibility diffusion" can be used to explain the phenomenon, i.e.: when many people jointly do something, the responsibility can thus be diffused on all participants, without being shouldered independently, then

the likelihood to just do it may increase.

Family is of decisive and inevitable influences to future developments of adolescents. It can be proved that bullying behavior is just like the effect of a involving door, the one who is a bully at school usually tends to be a victim at home (Floyd, 1895；Greenbaum, 1988). The bullied children may vent their frustration and anger from the bullying behavior to their parents or family members; if "the parents do not further ask for the cause and respond to their unusual behavior," the parent-child and family relations may be affected (Ambert, 1994). And the adolescent bullying behavior is usually the source of family violence and social violence in adulthood. In addition, Greenbaum (1988) pointed out in his research: The children often being bullied in childhood may easily bully their wives and beat their children in adulthood.

Similarly, many bullies may extend their early behaviors to their adulthoods, which may even affect their families. Usually, if their early bullying behavior extends to the next generation, or they directly bully, abuse or use violence against their spouses and children, which may form serious "family violence" (Clark & Kiselica, 1997; Farrington, 1993; Scott, 1998).

On the campus, the common bullying behaviors include: hide other's articles to embarrass him/her; loudly call other's embarrassing nickname to tease at others; order him/her to buy something for others at welfare shop; write or paint insulting words or pictures on blackboard or wall; even extort money or property or threaten others to steal. Thus it can be acknowledged that bullying behavior is not only limited to physical attack, but also psychological attack, while campus bullying behavior often occurs in the form of "group bullying individual," in contrast of less "individual bullying individual." In bullying form, verbal bullying is more usual

than physical bullying (Boulton & Underwoo, 1992；Kochenderfer & Ladd, 1996；Perry et al., 1988).

Furthermore, Ireland (2000) divided bullying behavior into direct and indirect, the direct bullying behavior includes: verbal abuse, physical attack, threat etc; indirect bullying behavior includes: teasing, exclusion, gossip spreading or rumor running. Whether being direct or indirect bullying behavior, the victim cannot defend himself/herself under the circumstance (Atlas & Pepler, 1998). Boulton and Underwood (1993) pointed out in their research: 58% students said they were once teased, 33% students were kicked or beat, near 10% were bullied in other ways, such as being pulled hair or abused by dirty words. There are not only one form of bullying behavior, but includes verbal and physical ones instead. It may be some indistinct mischief or jokes preliminarily, the commonest form is to nickname others viciously, then it may further to be assaults as teasing, insult or threat. If the bullied or stander-bys does not fight against or stop it, the verbal bullying may turn into physical bullying as beat, kick, push, bump, rob or damage other's articles, and sexual harass or other violence may occur as a result. Sharp and Smith (1994) categorized bullying behaviors as three: (I) Physical bullying: beat, kick or damage other's clothes. (II) Verbal bullying: abuse, insult, repeated teasing, or ethnic gossip. (III) Indirect bullying: rumor running or repulsion against others.

The causes and effects of bullying is other essential points attracted researchers attention. Campus bullying behavior has aroused close concern and emphasis of all social ranks. Many factual research results showed most believed that campus bullying behavior was attributed to family, emerged at school and deteriorate in society. Today's adolescent campus bullying behavior is so common, the cause is multiple, complex instead of single factor. Bullying behavior is formed gradually.

Once a child is found to commit bullying behavior, it may cause many negative impacts in their adulthood if not being early corrected or prevented (such as antisocial behavior and criminal behavior) (Hazler, 1998；Olweus, 1984).

From the theoretical perspective of psychological frustration attack, when people are suffering frustration, they may easily attack others. The more the frustration accumulates, the easier to cause attacking behavior, and bullying behavior is the one of the main approach of human attacks. The so-called frustration refers to the serial behaviors from an individual being impaired to certain destination. Hence, when the students face setbacks at school (such as poor academic performance, and low spirit for self-worth), the campus bullying behavior may thereby occur. Duncan (1999) thinks if there is bullying behavior between brothers and sisters, then there is more likely bullying behavior between fellow students.

From the theoretic perspective of social learning, Bandura (1977) thinks human behavior is from observation, imitation and learning. Bullying behavior, same as other behaviors, is caused by learning, while observation and imitation are the main learning processes in teenagers' growth. Olweus (1984) proposes that bullying behavior may come from the influence of one's fellow group through observation and imitation. Patterson (1986) suggests in his research that child will imitate bullying behavior, if he/she found that people of higher social ranks practiced bullying behavior but be praised and encouraged instead of being punished. Many bullies extend their early bullying behavior into their adulthood. From the above points of view, schoolchild's bullying behavior is originated from their family, to prevent and correct the bullying behavior or instruct victims should start from family. The characteristics of the bully and the victim, including

characteristics of the bully of campus bullying behavior and the characteristics of the victims of campus bullying behavior are remain to be explored in different countries. Summarizing some researches of bullying behavior, we can find that the bullies had the following common characteristics (Besag, 1989；Bosworth & Espelage, 1999；Boulton & Smith, 1994；Duncan, 1999；Olweus, 1994；Peterson & Skiba, 2001；Rigby & Slee, 1992；Salmon & James, 1998):

1. The bullies are usually impulsive and bad-tempered (Bosworth & Espelage, 1999；Hoover & Hazler, 1991；Olweus, 1994), extroverted (Rigby & Slee, 1992), highly depressed (Peterson & Skiba, 2001；Salmon & James, 1998), and aggressive to teachers, parents, fellows, brothers and sisters (Besag, 1989), but unhappy inside (Rigby & Slee, 1992) and less anxious (Besag, 1989；Salmon & James, 1998).

2. The bullies are usually strong, forceful, vigorous, confident and older than the victims (Besag, 1989).

3. They lack of empathy towards the victims: when bullying others, they often feel they are playing jokes instead of experiencing other's hurts on the victims' positions, i.e. they do not feel guilty or shameful, and do not cherish sympathy towards the victims (Besag, 1989；Olweus, 1994). But the bullies will not be repulsed by their fellows, since they do not bully others causelessly and aimlessly, thus they are not repulsed by the most (Hoover & Hazler, 1991).

4. They are often good at communication and quick-witted (Besag, 1989), but reluctant to accept other's ideas, poor in cooperation with others, and uncompromising to others in playing (Hoover & Hazler, 1991).

5. Their family functions are usually unhealthy and incomplete (Besag, 1989), with poor relationships among parents, brothers and sisters. Their families usually provide less emotional supports and lack of family cohesion (Bowers, Smith, &

Binney, 1994；Rigby, 1994).

Generally, campus bullying behavior is increasingly concerned in recent years. At present, the campus bullying behavior learned by the public includes malicious bullying, hurt and devastating violence, mostly occurred between students, but sometimes between teacher and student. The occasion of bullying behavior was not only limited to campus, sometimes it happened beyond campus. Commonly speaking, people of any age or social rank may suffer bullying behavior at any places, even at working place or in prison (Ireland, 2000, 2005), or it may occur on street, in park, on playground near one's home, or at other places (Boulton & Underwood, 1993). While, the bullied may also face adaptive and development problems, the hurts at young age may imprint in their minds which cannot be healed, and thus lead to unconfident, frustrated and overcautious personality. Greenbaum pointed out in his 1989 research: The likelihood for children who were once bullied at schooling age committed severe crimes is five times more than those who were not. When these children grow up and become members in the society, they may exert negative influences to their living and working environment.

Therefore, no matter be it bully or the bullied will cost more to the society. In recent years, domestic campus violence emerged endlessly. Accordingly, about 70% students committed verbal attacks against others, but only a few students committed other harmful attacks (about 1.5%). Based on the above facts, campus bullying behavior has deeply rooted for years, and tends to go further, which has aroused concerns from people in education, psychology, tutorship and social works, and become a common educational issue in the world. Thus, to study the creation of victims of campus bullying behavior and status quo, and to explore the

approaches of prevention and solution, then to provide reference for psychological tutors and educators to plan education measures or draft tutorship schemes are the motivations for the researcher to focus on the campus bullying behavior as the subject.

The main purposes of the research is to explore the cause for the creation of victims of campus bullying behavior, to analyze their needs and correlation, and to offer suggestions on preventive strategies for victims on the basis of research findings, so as to provide reference for school education. The appreciably research objectives are to analyze the cause of creation of the victims of campus bullying behavior; discuss the forms of the victims being bullied; discuss the time and place of the victims being bullied; learn the feeling of victims to campus bullying behavior; and provide suggestions on solution to prevent the students in the public junior high school from being bullied as references for education administration, school education, family education and psychological instruction based on the findings.

Method

Participants and procedure

The research aims at exploring the characteristics of victims of bullying behavior in the public junior high school in Taiwan. The interviewed victims in the school are those who were "often bullied by others at school." Although there are many victims of bullying behavior in junior high schools at present, this study used "convenient sampling" method in consideration of the willingness of cooperation

by the school and students. The students identified as victims of bully by their school administrator, classroom teachers, and self-ratings were selected to be participants.

The researcher first obtained consents of the principals and directors of counseling office. Then he looks for the victims receptive to interview with the help of the class teacher. Their parents' written permission for being participants also received. At last, total five students received the interview. Table 1 mentions their data:

Table 1   Basic Data Information of the Interviewees

Interviewee	Sex	Grade	Code
Case I	F	8	21
Case II	F	7	22
Case III	F	8	23
Case IV	M	7	11
Case V	M	9	12

The researcher personally talked with each interviewee separately according to self-made interview outline, and recorded the whole process upon consent of the interviewee. Afterwards they transcribed the record into literal script as foundation for encoding analysis after collation by the researcher himself.

Data Collection

The research uses in-depth interview of the qualitative research methods, and directs the interview by semi-structured interview outline.

(I) Interview

Interview is one of the important methods in ethnographical research. The researcher not only observes and studies the external behaviors of the objects, but also understands internal viewpoints of them, and to further discuss their beliefs, images, motives, judgments, values, attitudes and emotions. The interviews can be divided into informal and formal ones:

1. Informal interview: Informal interview is a kind of free and natural talk, whose topics are completely chosen from natural circumstances, just like chatting without preset goals but going freely consistent with emotion, and the topics may cover everything.

2. Formal interview: After the researcher and the participants fully established rapport relationship, the talking style tends to be formal. The content of interview is well structured; starting from issues needed by researcher to collect data by a set of systematic and ordered questions. In the study, five participants were interviewed individually according to the preset interview outline.

(II) Semi-structured Interview Outline

The semi-structured interview outline provides basic list of interview subjects, instead of pre-setting any standardized questions, whose order is determined according to actual circumstance in interview. This kind of interview style makes the data collection more systematic and flexible.

Data Analysis

The researcher encoded the interview message according to the interviewees' answers after carefully reading of each interview script with categorizing, settling and organizing the collected materials, and then the materials became useful resources. The research only interviewed 5 students being frequently bullied by

others for the limitation of time, willingness of the school and the students for cooperation. The research findings cannot be extended to other victims of bullying behavior in the school, for its focus lies on finding phenomenon but not making any deduction. Since the interview method can only collect "self-reporting" materials, the interviewees may be reluctant to provide actual data for once suffered negative school life or being limited to oral expression ability and memories (Chow, 1996).

Results and Discussion

Family Structure

No. 1 student is now studying in Grade 8 of one of junior high school at the middle of Taiwan, and living with "her father, mother and sister" (21-014), her "parents are working in insurance company" (21-030). No. 2 student is studying in Grade 7 and now living with her "father, mother and younger brother." (22-018). Her "mother is a housewife and father is working in a construction company." (22-032). No. 3 student is now studying in Grade 8. "My father divorced my mother," (23-012). "and I have no brother or sister." (23-016). I often "watched TV, did some cooking and washing, or mopped the floor after class," (23-008). Because "I am living in a single-parent family, my father had to work outside, and I had to do everything by myself." (23-010). Her father is "a passenger bus driver commuting between Taipei and Taizhong." (23-018). "Sometimes he came back home at night, sometimes did not." (23-020) "Most of time he didn't live at home, but in his dormitory." (23-022). No. 4 student is now studying in Grade 7 and living with her "mother, father and older sister." (11-014). She states "father graduated from senior vocational school, and mother graduated from the public junior high school." (11-022). "My father works in Taipei, and my mother worked for one of

her friends." (11-020). No. 5 student is studying in Grade 9 and living with his "father, mother, younger brother and sister." (12-012). "My father is a university graduate, so is his mother." (12-026). "My father works in telecommunication office, and mother works in one commercial and industrial library." (12-024) "My brother is studying in Grade 7 of the public junior high school and sister in Grade 9 of the public primary school." (12-014). In general, those participants came from common families with the limited numbers.

Parenting Styles and Parent-Child Relation

No. 1 student "sometimes did, sometimes did not" (21-034) chat with parents at home, usually "talked about something at school" if we chatted (21-036). As for the problems she encountered in daily life, "…I would not tell my mother, except something very serious." (21-042). Before, her parents were not very strict to her, "…but now they rule me with a rod of iron because of my study." (21-048). My father once beat me at home, "my sister likes to go shopping, I wanted to go with her, but she didn't want me, I wouldn't listen to her regardless of her refusal, my father then beat me with a stick." (21-058) No. 1 student is not taking remedial courses, "…before I did take, but now I am not." (21-008) "My mother does not afford it, the more remedial course I took, the worse my study was, I once took Math course, the more, the worse, but my English was not like that, now I am not taking English remedial course because my mother cannot afford the cost." (21-010) No. 2 student "sometimes did" (22-034) chatted with her parents, usually talked about "something interesting." (22-036), but "seldom" (22-038) talked about things happened at school. My parents' education style could be told as "democratic." (22-042). Sometimes they beat me, "because I performed poorly," (22-052)

"usually because of my study!" (22-056). My father was not very stern at home, his education style "should be called authoritative." (23-028), she felt that her father "cared me enough." (23-034) As for her behavior at school, "I can discipline myself, so he does not have to worry about that." (23-038) "I am a poor student, so he does not want to care about it, otherwise he would get angry." (23-040) "Until now he did not" (23-042) beat her, but before he did since she was "ignorant and always committed mistakes." (23-046) No. 4 student "seldom chatted with parents, sometimes did, sometimes did not" at home (11-024) and described his relationship with his parents as "very common" (11-040), they did not limit him too much. His parents cared about his study and performance at school, and once beat him because his "bad performance in examination." (11-044) No. 5 student "…only chatted with my younger brother and sister" at home (12-028), but never chatted with his parents "because of his bad temper." (12-030) "…All our three are afraid of him." (12-050) "He would beat us once we committed mistakes." (12-052) "Sometimes it was not me who did things wrong, but he smeared it was me." (12-056). His parents were not strict with him, "my mother often worked on night shift, my father watched TV and attached no attention on us." (12-036) As for his study, "they only pay little attention on it, my father does not at all, he only cares about my brother." (12-042). As for my behavior and performance at school, "my father does not care, my mother cares a little." (12-044).

Relationship with Her/his Sister and Brothers

I am not on good terms with my sister, "…sometimes we kept quarrelling with each other until my parents stopped us." (21-016), "She beat me each time we quarreled, if I cried." (21-022) The reason for quarrelling was usually that "she

scolded me when I wanted to buy something, I would talked her back that why you could but I couldn't." (21-018). "I am on good terms with my brother." (22-020), I do not bully him intentionally, "sometimes I quarreled with him" (22-024), usually because "…he took my things away." (22-028) I "did not beat him but scolded him verbally." (22-030) His relationship with his sister was "good" (11-016), his sister did not bully him.

Relationship with Classmates and Teachers

She felt that her teachers treated her "very well" (21-112), and did not have good friends in her class, "…I am excluded always." (21-134) "Because they think I am very strange and difficult." (21-136) But she got no way to learn why they thought like that, "…they only think I am weird." (21-138). She thought the teachers treated her "very well" (22-100) and "cared her very much" (22-102), she could "get along with half of the classmates well but bad with another half" (22-132), she felt she could get along with her classmates "without any difficulty" (22-134) and did not be "excluded." (22-136). She felt that the teacher "cared her very much" (23-092), "because she loved all her students" (23-096). "…When we went to Jianhu Mountain〔amusement park〕, my father did not come back, I got no money to buy food, and my teacher gave me NT$100." (23-098) She does not have good friends in her class, "…I have friends in other classes" (23-110), "because I got acquainted with students in other classes, and I don't know how to make friends, so my friends are all students in other classes. I don't know how to make friends since I was in primary school" (23-112), "I can get along well with friends outside my class, since my classmates are far too excellent." (23-114) She feels her relation with her classmates "was not good" (23-138), and she was

repulsed by boy students, "I can get along with girl students better than with boys." (23-140) "Boys are exceptionally difficult to get along with, since they are all ganged up, then they would tell you…this girl is so and so, that girl is so and so, finally all boys would dislike her." (23-142) He feels that his teacher "cared him very much" (11-098) and he was "on good terms" with his teacher (11-100). He feels his relationship with others is "common" (11-130), but he is "unpopular." (11-134) "All my classmates bullied me," (11-050) "I couldn't make may good friends." (11-142) He feels that the teacher treated him "not bad." (12-138) He does not have good friends in his class, "because his interpersonal relationship…is not that good." (12-150), "because I like staying alone." (12-152) He thinks he "is not only famous, but very famous, because all the classmates know me well, I am the No. 1 in the class." (12-168) He "thinks that being the No. 1 is awe-inspiring." (12-172)

Time, Site and Cause of the Bullying Behavior

No. 1 student was bullied by her classmates from the "second semester in Grade 1 in the school" (21-090), "…now I am often bullied, too." (21-072). Usually the bullying happened when we "did cleaning or class finished." (21-100), and the site was usually "in classroom" (21-098). The cause "should have been I often complained to our teacher, I did so in the second semester of Grade I." (21-092) "…Also I often cried, so they did not want to make friends with me." (21-140) No. 2 student was bullied by others from "the beginning of the second semester of Grade 1 in the Public Junior High School" (22-084), usually when "class was over" (22-094). And the site was usually "in classroom" (22-092). Sometimes I quarreled with my classmates at school, usually because "he refused

to lend me something I needed, then I quarreled with him." (22-062) Sometimes my classmates "…abused me without any reason." (22-066) No. 3 student was bullied by classmates in primary school, after she came to the Public Junior High School, "in Grade 1, I was seldom bullied but in Grade 2, I was bullied even worse," (23-072) "because I was a poor student." (23-082) "…My classmates disliked me." (23-050) Usually, it was "her classmates" who bullied her (23-054) "after class." (23-080) the site was "certainly in classroom" (23-076). No. 4 student was bullied since "the beginning of Grade 1" (11-076) and now is often bullied, too. Usually the time was when "he just went into the classroom for music class." (11-086) And the site was usually in the "music classroom" (11-084). He didn't know why his classmates always chose him as an object, "…they always beat me without any reason." (10-082) "In primary school, I was beaten sometimes." (11-080) In the Public Junior High School, "…Boys always bullied me," (11-054) "each time two or three did so." (11-066) "Sometimes I wanted to get into the classroom, they closed the door when I went to the threshold." (11-056) "Sometimes they abused me." (11-060) His classmates often teased at him and freely nicknamed him. He knew there were other students in his class "was abused" (11-122). "That girl is so pale that like a ghost." (11-124). No. 5 student was bullied by classmates from he was in primary school, "…I was bullied seriously." (12-100) "In primary school, I was a coward, not daring to talk back." (12-102) In the junior high school, "I was not bullied in Grade 1, but was bullied since Grade 2." (12-094) Usually, the bullying behavior happened when they had "physical education class," (12-110) on the basketball court…" (12-108) "The bullying is not physical bullying, but verbal bullying." (12-112) The cause was "I was short." (12-098) "They thought I was vulnerable and did so, well, why I so thin…my mother was gave

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birth to such a bony child." (12-132) He is on good terms with his brother and sister, "…sometimes we three fought against each other." (12-016) But "usually we only pretended to fight, finally we fought but not really fought, only playing fists there." (12-018) "Sometimes we quarreled with each other when playing together, and became angry, then fought each other." (12-022) "Sometimes my brother beat my sister into tears." (12-020)

Form of Being Bullied

"…Once, someone numbered as No. 6, but he wrote down as No. 36, our teacher asked me about that, I told that it was not me, then said nothing more. Then our teacher asked others in the classroom, all the others said they disliked me." (21-088) Besides this, they "cursed me…as dirty and ugly." (21-074) "They did not beat me, but abused me," (22-088) "sometimes abused me without reason." (22-066) She would talk them back once being cursed. In addition, to her knowledge, some other students were often bullied by others, "boys often quarreled with each other and fought each other." (22-124) "Boys in the primary school were naughty, they beat me…I ran after them…very fast, later they would ask me to run a race at games." (23-078) In the junior high achool, my classmates "…all disliked me." (23-050) "They said I was a poor student…and teased me as dirty when they saw my dirty clothes," (23-052) "and they intentionally tramped me on my foot, or bumped me deliberately." (23-064) In addition, according to her there are other students being bullied, "I feel that the girl students in my class are from matriarchal society." (23-128) "In matriarchal society, women were usually older than men, and tended to bully men as well, thus men were afraid of women." (23-130). e.g., "there is a girl in our class is so terrible that she would…once she caught someone who

did not know how to protect himself. You could never run away from her, she sometimes pushed him down with a besom." (23-132) No. 5 student "sometimes bickered" with his classmates (12-062), "because they called me monkey" (12-064). "They said I looked like a money, and called me Harry Porter, too." (12-070) Students liked to randomly nickname others, "…there are many animals in our class, such as camel, cattle and baboon." (12-068). They "randomly took pictures with my camera, I stopped them but it did not work. Finally the teacher stopped them." (12-072) "Sometimes a group and sometimes one student" bullied him (12-078). "Sometimes three or four students beat you, played tricks on you, girls in our class liked to fool me." (12-080) E.g., "she said she would paint me as a Picachu, I told her not to do that because Picachu was ugly." (12-084). "Sometimes she sang some indistinguishable songs; I asked what you were singing, so terrible." (12-106). "I once was beaten in Grade 1, three students beat me together, I resisted with something, at the very morning of flag raising, I was criticized by the teacher in the Education Department…" (12-122).

Handling Style of the School and the Parents

No. 1 student usually didn't tell her teacher after she had been bullied at school, other students did not tell the teacher, "either" (21-108). even they did saw everything, "…so the teacher should had not known the matter." (21-106). As for her parents, "they often told me not to care about it." (21-122). No. 2 student would "tell the teacher" when being bullied at school (22-072), the teacher would "called us together and told him not to bully others like this." (22-074). In addition, her friends in the class knew that she was bullied sometimes and told her, "don't behave like that, never do it again." (22-116). As for her parents, they were

"impossible" (22-104) to know she was bullied, because "…I did not tell them about it," "I am afraid they would have been very sad." (22-110). When No. 3 student was bullied, others who saw the bullying "would" (23-122) tell the teacher, "and also…" (23-124) stopped them. When the teacher knew about it, "…the teacher would tell them not to do so, and said they should have been naughty, ignorant, so and so," (23-090). "only mentioned again and again." (23-160). "If they went too far, the teacher would punish them." (23-163). As for her parents, "he knew about it already, he understood me very well." (23-102). However, "he did not know how to handle this kind of matter." (23-104). "I handled everything by myself, he never worried about me." (23-106). When being bullied at school, No. 4 student "would tell the teacher about the minor things." (11-068) Other students also "told the teacher." (11-118). "Having learnt everything, the teacher usually asked them about it." (11-070). "Sometimes the teacher punished them to write self-criticism, sometimes beat them." (11-104). As for my parents, they "did nothing at all." (11-110). No. 5 student would "tell the teacher" when being bullied (12-090), the teacher would "warn, and nothing else…after warning" (12-136). Once, "…I spit to him, he shook his head there." (12-130). When he was bullied, other classmates "learned about it" (12-154), "the kind-hearted ones would tell the teacher, but others would leave at once." (12-156). As for his parents, "I usually first told my parents, and my mother would told my teacher." (12-146).

Feeling and Ideas on the Bullying

When being bullied by others, she felt "…very strange, why did they bully me?" (21-102). However, "I did not want to care that" (21-082), "…I thought it had nothing to do with me, and I told myself not to care about it, otherwise it meant I

admitted everything, so I ignored it at all." (21-084). "Just like nothing had happened, just live my own life happily." (21-144). When being bullied by her classmates, she felt "very sad, why did they bully me?" (22-096). And she thought campus bullying behavior "cannot be stopped, because the school only care about scores, and does not care about students' feeling at all, so there would be someone being bullied at school, I pitied those being bullied." (22-138). When being bullied, she "only felt unhappy, only being unhappy, nothing more, it could be soon forgotten." (23-084). "You will get used to it." (23-086). Later on, "I didn't want to care about it." (23-070). "If you do not care about them, they would feel it was not interesting." (23-150). She feels that campus bullying behavior "is very common, and disgusting, teachers should have been stricter." (23-154). She thinks that teachers can "beat students. Before in the Public Primary School, teacher would beat the students who bullied others. Then they did not dare to do that again, but once the teacher neglected, they would bully others again." (23-156). "If I feel they went too far, I would fight against them. If not, I would ignore them. But it is bad that someone was always bullied, so…to fight back is better." (23-167). Although "it couldn't always work, but it could frighten them for a while, at least they would no longer so arrogant." (23-169). Now "I hope my study can be better, maybe they will not bully me any longer." (23-126). When being bullied, he felt it "boring, and hoped they would not do like that." (11-092). "I hope they will not bully others." (11-152). When being bullied, he felt "they said so many undue things…those bad eggs." (12-118). "Sometimes I wanted to retaliate," (12-120). and thought those students who bullied others "disgusting." (12-194) He thought as long as he "stuck to physical exercises," (12-158). then he would not be bullied any longer.

Conclusion and Suggestion

According to the above mentioned interviewees' answers and qualitative analyses, the research concludes the following main findings:

Relevant Factors Influencing the Students Being Bullied in the Public Junior High School

The bullies are not foolish; they chose the right ones instead of bullying others randomly. These students may have some characteristics on their bodies, or some special features in their personality, or some features on behavior, which indicate they would not and dare not fight against, although being bullied. As for what kind of students easily fall into victims, we discuss from four aspects as follows:

1. Physical characteristics of the victims: The bullied students are usually short, thin, and comparatively weak as well.

2. Personal features: The bullied students are usually reserved, timid and unpopular, after repeated bullies, with the increasingly reduced confidence; they seemed more craven and more helpless, giving others a sense of vulnerability to hurt and criticism. This kind of vicious circle made it more likely to be the objective of bullying behavior, and caused the increased arrogance of the bullies.

3. Several Special Behaviors of the Victims:

(1) Less friends: The bullies knew that these students were excluded or repulsed by their classmates, and usually bore everything alone without any reliable friends to help them, it was safe to bully these students.

(2) Frequently complain to teacher: These students tended to complain to the teacher, thus they were repulsed by their classmates. To bully them made the bullies heroes in other's eyes.

(3) Poor students: These students were usually of poor students on study, feeling themselves stupid, disgraceful and unpopular, for which they were looked

down upon by their fellows, and suffered low confidence. The bullies tended to aim at these students.

(4) Dirty and undisciplined: These students were usually slovenly and lazy, being unpopular in appearance.

4. Family background: These students usually couldn't get along well with parents, brothers and sisters, between whom there were usually conflicts happened. Their parents did not discipline them strictly, and their family usually supported fewer emotional support and family cohesion.

Style of Being Bullied

The styles of bullying behavior are numerous, including verbal and physical bullying. Preliminarily, the bullying behavior may be only indistinct mischief or trick, the most common form was to nickname somebody embarrassingly, then the bullying behavior may further to be personal assault, such as teasing or insulting. If the bullied or the stander-bys did not resist or stop, the verbal bullying would turn into physical bullying, such as beat, kick, push, shove, rob or damage other's articles.

Time and Site of Being Bullied

Bullying behavior mainly occurred after class, the usual site was in classroom.

Feeling of the Victim to Campus Bullying Behavior

For the victims of bullying behavior, when being bullied, most of them would ask "why did they bully me?" And they felt "very sad," "unhappy" and "boring." As time passed, gradually they "got used to" the bullying behavior, and didn't want to care about it. Later, they lost interest in school, even regarded it as an unfriendly and terrifying place.

II. Suggestion

Although campus bullying behavior is a complex social problem, it can be overcome. To build a safe school environmental is not something easy. The research provides the following four suggestions for reference to prevent students in the Public Junior High School from bullying behavior on the basis of education and instruction:

Encourage the victim to tell the truth, to find and prevent bullying behavior as early as possible

No matter being what kind of problem, the earlier to find or learn about, the easier to solve. So does the prevention of bullying behavior. If the unusual start is recognized at the very beginning, more attention would be put into to avoid problems from being expanded or deteriorated.

Because most of the being bullied students are lonely and don't have friends, they tended to bear all unfairness instead of fighting against the bullies. However, when things were beyond their endurance, some of them would revenge the bullies, for which they may have incurred worse bullying. If being told about the bullying behavior, teachers should first comfort the bullied as they have experienced the same. On one hand, it may mentally support the bullied, on the other hand, it may win his/her trust to facilitate future follow-up works. In the past, the focus of instruction was usually pinned on the campus conquerors, while the bullied children were ignored. Sometimes they did not dare to tell the truth to their parents or teachers because the adults didn't concern about it, or they were afraid of being laughed at for complaint, thus the bullies were encouraged to run amuck.

To solve the problem thoroughly and completely, we must provide trainings on decisive expression skills to the passive victims, and help them to foster supports

from their fellows, which may reduce the likelihood of being bullied by the friends' supports. The researchers suggested the school to provide self-protect training plan for the mostly endangered victims earlier. When the students can decisively express themselves, others would not bully them freely.

Encourage the victims to make more friends

Many victims got no way to make new friends, because they couldn't accommodate to collective life. In community, they were either rash or timid, not knowing what they should say or do at all. Since they didn't know what influence their behaviors would cause, they often talked or acted inappropriately, and couldn't make friends with others.

Teachers shall encourage the victims to make friends with most of their classmates as more as possible. Some of the bullied students lack of social skills, thus they need the teachers' encouragement. In addition, some of the victims lack of the ability to learn about the social status, so they may have problems when getting along with classmates and friends. If the teacher does not help to handle the situation, it will cause their failure in making friends, which will further reduce his/her confidence. As long as the above problems being properly dealt with, the teacher may help students to solve many problems, enabling him/her to make many friends in the class.

Focus on Five-Quality Development education

Being influenced by the emphasis on higher-school enrolment rate, the school believes to study diligently is the students' only duty. In order to help the students to enter higher schools efficiently, the school spends most time on teaching. Overemphasis on course teaching seriously distorted and twisted school education, failed to consider needs of different students. The lack of appropriate help caused

some students to give up learning, even pursue unsound recognition. Therefore, it lead to unhealthy personality development of some teenagers, further to evolve into bullying behavior or attacking behavior.

Pay attention to students' behavioral performance

At school, teachers shall spend more time and energy on students' relationship with others, since the bullying behavior may be misunderstood as a kind of trick, or common conflict, which may be easily ignored. The beginning of bullying behavior always show some evidence. If teachers can instantly find and correct it, the campus bullying behavior may not have occurred repeatedly, which may avoid these students from becoming criminals in the future.

In a word, teenagers' physical and psychological development, personal violence and handling of campus problems are necessary basic courses and trainings for counselors in primary and secondary schools. The research and discussion on preventing campus bullying behavior should be conducted in domestic instruction meetings, or symposiums, on periodicals or monthlies, which may stimulate emphasis and enable practical experience for the counselors to solve the problems from campus bullying behavior in combination of the school counselors' efforts. At present, the campus bullying behaviors mostly were dealt with by instructors, the counselors shall take an active role to provide information and handling method, and to closely cooperate with the instructors. Only in this way, we can efficiently handle students' problems and enhance communications among school, students and their parents, so as to ensure students' and teachers' safety, as well as to maintain the campus harmony and security.

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Da-Yeh University, TAIWAN
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出席國際學術研討會報告

報告人：黃德祥

會議名稱：**2008 Hawaii International Conference on Education**
開會日期：**2008 年 1 月 5 日(Saturday)至 1 月 8 日(Tuesday)**
開會地點：**Waikiki Beach Marriott Resort & Spa 及 Hilton Waikiki Prince Kuhio Hotel in Honolulu, Hawaii, U. S. A.**
國科會專題研究編號：**96-2629-H-212-001-**

個人今年有兩篇論文被接受，幸運獲得參加「2008 年夏威夷國際教育學術研討會」(2008 Hawaii International Conference on Education)。本研討會由 2003 年創設至今已有六屆，是目前全世界規模最大的教育類國際學術研討會，每年吸引近五十個國家，約一千五百名的教育學術專家學者參與。這項研討會剛開始由夏威夷大學主辦，隨後演變成由專業的研討會主辦機構籌辦，每年再邀請世界各國的大學學術團體贊助或合辦。北京大學曾於 2006 年協辦該年的學術研討會。今年此項研討會的合作機構是 The University of Louisville－Center for Sustainable Urban Neighborhoods, New Horizons in Education － The Journal of Education, Hong Kong Teachers' Association 與 Pepperdine University－Graduate School of Education and Psychology。今年的會議於 2008 年 1 月 5 日(Saturday)至 1 月 8 日(Tuesday) 於夏威夷的 Waikiki Beach Marriott Resort & Spa 及 Hilton Waikiki Prince Kuhio Hotel in Honolulu 舉行。該飯店緊鄰世界最著名海灘 Waikiki 海邊，風景秀麗，飯店的 Waiters 與 Waitresses 對台灣來的學者非常友善。由於開會地點頗富盛名，因此，今年參加此項國際學術研討會的學者仍然非常踴躍，發表的論文，頗多佳作，另有壁報發表及未收錄於光碟片者共計約近五百篇論文，可說是國際少見大規模的教育學術研討饗宴。今年個人發表之論文是：「中學生知識論信念的理論建構與測量」（ Theoretical Construction & Measurement of Epistemological Belief of Senior Vocational School Students）與「台灣欺凌受害學生之特質分析研究」(The Characteristics of Victim of Bullying Behaviors in Taiwanese Students)。

「中學生知識論信念的理論建構與測量」一文主要關切台灣中學生知識論信念的內涵與測量。個人對知識的本質與求知歷程所懷抱的信念，稱為知識論信念 (epistemological belief)，對認知學習有很大的影響，進而影響到教學的理論。國外知識論信念的研究成果相當豐富，然而在國內則缺乏對知識論信念理論建構及測量的研究。本研究參酌 Schommer (1990, 1998)的知識論信念問卷自編題目，以 296 名台灣高中職學生為對象，探討知識論信念的潛在建構，發現成熟的知識論信念與不成熟的知識論信念二者可能不是同一向度的兩極，而是兩個不同的向度。本研究所發展的 18 題的知識論信念問卷，包括「知識的建構性」、「知識的脈絡性」、「漸增能力」、「漸增學習」、「追根究柢」五個因素，五個因素彼此相關 (.38~.84)，且共同負荷在二階因素「成熟的知識論信念」之上。此外，本研究亦支持 Hofer 與 Pintrich (1997)的論點，五個因素可以分別負荷在「知識學習的本質」與「知識學習的歷程」兩個二階因素之上。本研究的屬性為探索性與描述性的，因此未來仍有待相同母群不同樣本的資料進行複核效化 (cross validation)研究，以進一步驗證本研究的成果。

「台灣欺凌受害學生之特質分析研究」之主要目的在於探討校園欺凌行為受害學生的形成原因，分析其需求與相關問題，並根據研究發現，對受害學生之防治對策提供各項建議，以供學校輔導工作的參考。本研究採用質的研究法中的深度訪談法，並以半結構訪談大綱引導訪談之進行。本研究的受訪者共有國中學生五人。研究者先將訪談過程全部錄音，事後再將錄音帶轉謄成逐字稿，進行編碼的工作，再將所收集到的資料加以分類、整理、組織，成為有用的資源。本研究發現，校園欺凌受害者可能因為肢體上有某些特徵，或是人格上具有

某些特質，而容易招致他人欺凌。受欺凌的學生通常身材矮小，而且比較瘦弱；個性較沈默、較膽小，且不討人喜歡；獨來獨往；很愛告狀；成績很爛；散漫骯髒。此外，受欺凌的學生與父母、手足的關係較差，家庭較少情感支持，缺乏家庭凝聚力。本研究最後根據研究發現對防治校園欺凌行為之對策提供各項建議。

「中學生知識論信念的理論建構與測量」一文的另一作者是個人學生，彰化師範大學教育研究所博士班學生林重岑。「台灣欺凌受害學生之特質分析研究」的共同作者係台中教育大學人文暨藝術學院院長魏麗敏教授。我們發表的場次被安排在 2008 年 1 月 5 日上午九點半暨下午一點舉行。相關論文發表場次與會者眾，每場次約近十餘位參加，我們論文發表完畢，竟意外有多人次發問，如非主席限制時間，尚有多人提問，另有多人向本人要名片、索取論文。第一場次與會學者特別關心中學與大學生知識信念之評量適切性，以及測量誤差問題。另一場次論文發表與會學者則關心欺凌行為是否有年齡層之差異，如幼兒、兒童與青少年是否相同，另也有學者關心質量研究之差異，以及不同國家之異同，均由個人一一答覆。這次參與國際學術研討會，激勵個人更多成長機會，對未來研究有積極幫助。此次會議在 Hotels 不同的 Room 同時分場舉行，沒有午休，也無中場休息，連續發表，也由於分成多個場次同時進行，所有參與者只能自選部分感興趣的主題旁聽，因此，每個場次聽眾的人數大約在十人左右，但也因此，論文的發表反像是小型研討會，論文發表者的壓力較小，相互溝通的機會較多。

這次國際教育學術研討會幾乎涵蓋所有教育領域的主題，包括：教育行政、課程研究與發展、閱讀教育、健康教育、音樂教育、諮商

教育、藝術教育、數學教育、特殊教育、師資培育、成人教育、遠距教育、初等教育、商業教育、本土教育、多元文化教育、幼兒教育、科學教育、教育科技、教育心理學、體育與休閒教育等，內容豐富。來自不同國家的人相互觀摩，也可以促進國際學術交流與合作。夏威夷是東西文化交流最密切的地方，觀光業尤其發達，是世界著名渡假勝地，一月適逢年假，且美國寒冬，因此人山人海。夏威夷是美國第五十州，於一九五九年八月二十一日才成為美國的一州，目前主要人種，除美國白種人外，以日本人最多，其次是華人、韓國人、土著及菲律賓人等，是具有多討元文化與多重語言的地方，更有美國本土少見的多元種族通婚與種族融合。個人慶幸能應邀與會，除能將個人研究所得與世界各國學術界人士分享外，並能增廣見聞，獲悉當前國際教育學術發展潮流，可謂成果豐碩。

附錄：(此次國際學術研討會邀請函)

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