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&
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前 言

為深入貫徹落實《全民健身計劃（2011-2015年）》，利用第三次全國國民體質監測成果加大群眾體質科研力度，通過加強國內外學術交流促進體質研究，推動國民體質監測和測定工作的開展，特舉辦以“科學健身，全民健康”為主題的“第三次國民體質監測論文報告會暨體質研究國際研討會”。

是次會議由國家體育總局主辦，澳門特別行政區政府體育發展局和國家體育總局體育科學研究所承辦，於2012年6月2日至5日在中國澳門舉行。

會議的主要議題包括中國國民體質現狀及變化特徵；體質研究的理論與方法；大眾健身方法研究與應用；大眾參加體育鍛煉程度的評價與應用等方面，將採用大會報告、專題報告及牆報展示等形式進行交流。

在徵收論文期間，得到了國內外專家學者的踴躍投稿，為這次論文報告會提供了一批質量較高的研究報告和論文。經過專家組的評審後，共評選出10篇大會報告、72篇專題報告及86篇牆報交流的論文，分別邀請了來自全國內地各省市、澳門、日本、奧地利、芬蘭及美國等地的學者在論文報告會上進行交流。

為深入開展研討交流，特將在本次論文報告會中發表的論文編印成集，以期能進一步為凝聚體質與健康促進發展的研究成果及促進研究的學術交流帶來正面和積極的影響。

編者

2012年5月

Preface

With the purpose of deepening the practice of the Sport for All Program (2011-2015), enforcing the sport scientific research by utilizing the results of the third CNPFS, propelling the process of the surveillance and measurement through communication of research in the field of physical fitness at home and abroad; a conference will be held particularly, namely, “Conference for the Third China’s National Physical Fitness Surveillance (CNPFS) & International Seminar of Physical Fitness Research”, with the theme of “Exercise Scientifically, Keep Fit and Health for All”.

This conference, which will be hold during the period of 2 June 2012 to 5 June 2012, is proudly organized by General Administration of Sport of China, which is hosted by Macao Sport Development Board and China Institute of Sport Science of GASC.

The topics covered in the conference will be included : “Status of physical fitness of China’s civilians and its characteristics of changes”, “Theories and methods for research of physical fitness”, “Research and application of exercise methods for all” and “Evaluation and application of the exercises joined by all”. The forms of presentation will include keynote speech, symposium and poster presentation.

High qualities of articles were submitted enthusiastically by lots of people from the mainland and foreign countries. After all the submitted articles have gone through the evaluation process by our expert team, 10 of them have been chosen for the keynote speech, 72 papers for the symposium and 86 papers for poster session. Participants of the accepted articles from all over the world, including Mainland, Macao, Japan, Finland and United States were invited to join this conference.

A “Conference for the Third China’s National Physical Fitness Surveillance (CNPFS) & International Seminar of Physical Fitness Research” is published so as to extend the effect of the seminar, to concentrate the fruitful results of the development of physique and health to encourage the positive side of research interflow.

May, 2012

大會報告

Conference Speech



澳門大眾體育發展與市民體質狀況變化的探討

澳門特別行政區政府體育發展局

The Development of Sport for All in Macao and the Investigation of Physical Status of Macao Citizens

Macao Sport Development Board, Macao S.A.R.

摘要

本文結合2005年與2010年澳門市民體質監測的數據，探討近年澳門大眾體育的發展對市民體質狀況的影響。結果顯示：近幾年來，市民健身康體活動日漸活躍，與2005年相比，澳門成年人及老年人總體體質水平略有提高，但澳門幼兒及青少年學生的體質狀況下降，建議透過學校體育及社會各界的努力，加強這兩個人群的體育健身意識，培養終身體育的健康生活模式。

關鍵字：澳門市民，體質監測，大眾體育

Abstract

The data of the 2005 and 2010 Physical Fitness Study of Macao citizens were integrated in this paper. These data were used to investigate the effect on physical status of Macao citizens through the development of sport for all in these recent years. Results showed that: Citizens were more physically active and the physical status of the adults and elderly improved slightly. However, the physical status of young children and adolescents showed a regression and this indicated that it is necessary for the schools and society to put in more effort, in order to increase the awareness of these two groups to participate more in physical activities and to build up a lifelong healthy living lifestyle.

Keywords: Macao citizens, Physical fitness study, Sport for all

1. 前言：

眾所周知，除先天遺傳外，人的體質狀況會受到諸如環境、年齡、衛生、體育等後天因素的影響。而在後天因素中，體育鍛煉是促進人的體質發生變化的最

積極因素。因此，“增強體魄，提高市民體質”便成為特區政府推動大眾體育發展的目標。而大眾體育作為澳門體育的重要組成部分，因其參加人數多，活動種類與形式不同，功能多樣化，在澳門現代生活中起著越來越重要的作用。隨著大眾體育的發展，其將影響澳門市民的體質，而市民體質的數據對大眾體育的發展亦起到促進的效果。

澳門特區政府從2005年開始按照全國國民體質監測要求進行5年一次的體質監測。根據2005年和2010年兩次監測數據，澳門市民體質綜合指數以2005年為100的基準計算，結果顯示2010年澳門市民體質綜合指數為100.92，比2005年提高了0.92個百分點。那麼由2005年至2009年期間，澳門大眾體育政策是如何影響澳門市民體質的發展，這將是本文所要探討的問題。

2. 近年澳門大眾體育發展概況：

2.1 澳門公共體育設施網絡：

近年，澳門特區政府相繼於2005年舉辦了東亞運動會、2006年葡語系運動會及2007年亞洲室內運動會三大綜合運動會，這對全民健身活動的展開及體育文化的普及方面產生了積極的影響，而且由2006年開始，澳門特區政府啟動了公共體育設施網絡建設，把為舉辦運動會而興建的一批設施先進、功能齊全的體育場館大部份納入到“公體網”中，並對外開放以供居民使用。澳門回歸至今，由體育發展局管理並對外開放的體育設施由過往的12個增加至現今的23個，人均體育場地面積達到0.78平方米。據體育發展局對使用場館人次的統計，東亞運動會舉辦後的2006年1月至7月間，平均每月有416,667人次使用體育場館，比2004年同期的329,596人次增長了26.4%。而直至2010年，平均每月使用場館的人次已達到478,596人次，比2004年增長了45.2%。可見，體育場館的增加使居民更加方便進行體育鍛煉和娛樂休閒活動，為推動澳門大眾體育的廣泛開展創造了更有利的條件。

2.2 澳門大眾體育的推廣：

隨著澳門社會經濟的不斷發展，政府亦不斷加大對體育事業發展的投入力度，在社會各界以及全澳57個單項體育總會的支持下，體育發展局制定和實施了多項促進大眾體育的計劃，努力從舉辦康體活動及宣傳教育入手，致力提倡「終身體育、全民健身」。

2.2.1 大眾體育康體活動：

體育發展局考慮和配合不同年齡人群的需求，舉辦多元化的大眾體育健身興趣班，所涉及的項目多種多樣，例如有瑜伽、太極拳班、水上活動、舞蹈項目及球類運動等等，以吸納各階層人士參與，養成「終身體育」的健康生活模式，最終營造一個滿載科學健身氛圍的社會。近年，大眾體育健身興趣班的各類體育項目及班次不斷擴大，見表1。

表1 2006年至2010年間舉辦各類興趣班的數目及市民參與情況

年份	項目	班別	名額	該年的參與總人次
2006	42	780	22,685	20,253
2007	48	931	26,622	24,116
2008	40	1,002	28,642	26,043
2009	44	1,482	40,578	30,121
2010	49	1,821	48,602	43,524

另外，由2008年開始，為了讓市民在參與運動鍛煉之餘，還可以了解到自身的體質狀況，從而更好地指導市民進行科學的運動鍛煉，體育發展局每年均會組織大眾體育健身興趣班的學員參加體質測試與評估，平均每年參加測試的人數約1000人，根據《澳門市民體質測定標準》，過往四年的測試結果顯示，體質綜合評級達到合格級以上的學員比例呈上升趨勢，不合格率由2008年的14.9%下降至2011年的5.1%，見表2。這提示學員通過體育鍛煉提升了體質水平，學員參加健身興趣班對改善體質有一定的成效。

表2 參加體質測試的大眾體育健身興趣班學員體質綜合評級比較

年份	不合格	合格	良好	優秀
2008年	14.9%	53.8%	25.7%	5.6%
2009年	8.1%	55.4%	28.7 %	7.7%
2010年	7.8%	52.5%	30.8%	8.9%
2011年	5.1%	48.9%	35.6%	10.4%

除開辦形式多樣的體育興趣班外，體育發展局每年更舉辦不同類型的康體活動，如婦女體育嘉年華、親子運動日、“自由波地”球類比賽等等活動以鼓勵市民大眾積極參加體育鍛煉，保持健康的體魄，見表3。

表3 2006年至2010年間舉辦各類活動的數目及市民參與情況

年份	該年舉辦之活動數目	該年的參與總人次
2006	21	243,815
2007	19	273,748
2008	21	294,118
2009	20	317,735
2010	21	369,879

而針對學生團體，體育發展局與教育暨青年局每年均會聯合舉辦暑期活動，為四至二十五歲的兒童及青少年在暑假期間提供各項文娛、康樂及體育活動，另外亦有為傷殘、失聰、智障兒童及青少年專設的班別，讓他們能藉著參與適當的活動增強自信、融入社群。同時透過活動可鼓勵廣大青少年善用餘暇，在輕鬆愉快的環境下開拓視野，建立有益身心的興趣與情操，有關活動參與資料見表4。

表4 2006年至2010年間舉辦暑期活動的班次及參與人次

年份	項目	班別	名額	該年的參與總人次
2006	66	664	21,966	18,423
2007	65	630	21,029	17,706
2008	74	648	21,968	18,583
2009	72	652	21,389	18,223
2010	92	647	21,098	18,368

2.2.2 大眾體育的宣傳教育：

近年，澳門特區政府亦不斷加大宣傳力度，營造健身氛圍，以提高市民的健身意識。由2009年開始，體育發展局以每月一次的周期，在不同社區舉行“大眾康體日”，透過有獎康體活動、由大眾體育健身興趣班的學員進行各類體育活動示範及表演，讓市民親身體現參與運動的樂趣，從而宣揚全民參與運動，達至終身體育的目的，見表5。

表5 2009年及2010年所舉辦“大眾康體日”的參與人次

年份	該年舉辦之數目	該年的參與總人次
2009	1月至12月 每月一次	22,400
2010		28,384

另外，每個星期日亦透過在本澳不同的休憩區設立“體育健康諮詢站”，為在場運動的人士提供體育資訊，推介不同類型的大眾體育項目，而參與人數亦不斷上升，見下表6。

表6 2009年至2010年參加體育健康諮詢站人次

年份	該年舉辦之數目	該年的參與總人次
2009	1月至12月 逢週日	10,470
2010		16,530

而為了鼓勵市民建立恆常的運動習慣，並為其積極投入健康生活的態度打氣，體育發展局更於2008年開始推出“運動易”會員計劃，該計劃為參與的每一位市民開設運動易會員卡，讓會員透過“刷卡”累積個人運動時數，實行以做運動、儲積分，讓市民感受運動帶來健康之餘，更可得到體育禮品作為對自己付出努力的鼓勵。計劃自推出以來，參加人數不斷上升，目前會員人數已超過57000人，顯示澳門市民參與體育運動的積極性正逐漸提高。

2.3 澳門大眾體育的參與人群：

透過上述各項軟硬體的建設，大眾體育活動的參與人數呈現逐年上升的趨勢，市民的健身康體活動日漸踴躍。但在參與人群的分佈上，多集中於成年及老年人。根據2005年與2010年澳門市民體質監測的研究結果，2010年成年人群中參加體育鍛煉的人數比例為69.5%，比2005年多5.9%；老年人群中參加體育鍛煉的人數比例為84.8%，比2005年高5.4%。而2010年幼兒戶外玩耍時間在30分鐘以上的為69.1%，比2005年低5.9%；青少年學生2010年課外參加體育鍛煉的人數比例為64.7%，比2005年低7.0%，可見大眾體育的發展較難滲透到幼兒及青少年這兩個群體中。

3. 2005年與2010年澳門市民體質綜合指數情況：

為便於評價澳門市民2010年與2005年體質的變化情況，採用體質綜合指數來比較兩年度市民體質的總體情況，其中該指數以2005年為100計算，數值越大表明體質水平越高。

從澳門市民體質綜合指數來看，澳門市民體質總體水平2010年略有提高，和2005年相比，市民體質綜合指數提高了0.92%。其中身體形態綜合指數為99.47，比2005年降低了0.53%；身體機能綜合指數為97.14，比2005年降低了2.86%；但身體素質綜合指數為102.02，比2005年提高了2.02%，見表7。由表7可以看出，

澳門市民體質總體水平各不同年齡段人群的變化特點不同，20~59歲成年人、60~69歲老年人體質比2005年提高，且老年人提高幅度大；幼兒、青少年學生均有不同程度下降，其中青少年學生下降的幅度最大。具體在身體形態水平總體略有下降，只有3~6歲幼兒身高略有提高；身體機能水平總體明顯下降，主要由於青少年學生下降幅度較大所致，而40~69歲年齡段人群基本持平，20~39歲年齡段人群還有所提高；而身體素質水平則總體提高明顯，20~69歲年齡段提高幅度較大，而幼兒、青少年學生的總體身體素質水平有不同程度下降，其中幼兒的身體素質水平下降幅度最大。

表7 澳門市民體質綜合指數

指標類型	幼兒	青少年學生	成年人		老年人	總體
	(3~6歲)	(6~22歲)	(20~39歲)	(40~59歲)	(60~69歲)	
身體形態	100.13	99.19	99.37	99.68	99.53	99.47
身體機能	--	96.47	101.38	100.18	100.01	97.14
身體素質	97.90	99.14	102.60	102.56	107.28	102.02
總體	98.90	98.73	101.57	101.23	103.89	100.92

4. 澳門大眾體育發展對市民體質狀況變化的影響：

進一步比較2010年與2005年各指標的監測數據，2010年幼兒組的身體素質下降較大，主要表現在平衡能力上較差，見表8。平衡能力反映了身體的肌肉力量及其協調能力、中樞神經系統處理信息的速度、各種感覺器官的功能及靈敏程度，所以通常是發育越完善，平衡能力越強。2005和2010年兩次體質監測問卷調查中對幼兒生活方式的分析可以看出，2010年幼兒戶外玩耍時間在30分鐘以上的為69.1%，比2005年低5.9%；這可能是造成幼兒素質下降的原因之一。

表8 澳門男女幼兒各年齡組走平衡木時間平均值比較（正常完成）（秒）

年齡組	男			女		
	2005年	2010年	差值	2005年	2010年	差值
3歲	18.7	22.0	3.3*	17.3	22.7	5.4
4歲	11.1	13.7	2.6*	12.3	11.9	-0.4
5歲	6.8	9.5	2.7*	6.4	9.8	3.4*
6歲	5.7	7.0	1.3*	5.9	7.5	1.6*

注：差值為：2010年的數據減去2005年的數據，*為兩年度比較結果 $p < 0.05$ 。

青少年學生方面，2010年男生的肥胖率比2005年提高3.7%，女生的肥胖率提高了3.1%，差異均有顯著性。身體機能主要表現為肺活量下降，而身體素質主要表現為力量及耐力素質的下降，圖1至圖3。影響學生體質下降的原因很多，從兩年度監測調查結果顯示，2010年學生戶內活動時間在3小時以上的比例（21.4%）明顯高於2005年（15.5%）。學生戶內活動時間的增多，去戶外的活動時間就會越來越少。學生更多願意選擇在家坐著看電視或玩電腦遊戲，也不利用課餘時間去戶外參加鍛煉。在課外體育活動參與特徵上，2010年課外不鍛煉的人數比例（35.3%）高於2005年（28.3%）。另外，2010年在家做功課時間在1小時以上學生的比例（54.5%）明顯多於2005年（40.5%）。課餘時間少了，參加體育鍛煉和活動的時間自然會受到一定的影響，甚至對體育活動的參與都會漸漸的失去興趣。這說明大眾體育的推廣難以在學生中普及，學生在體育鍛煉的參與方面出現了明顯下滑趨勢，這可能是影響學生體質下降的重要原因之一。

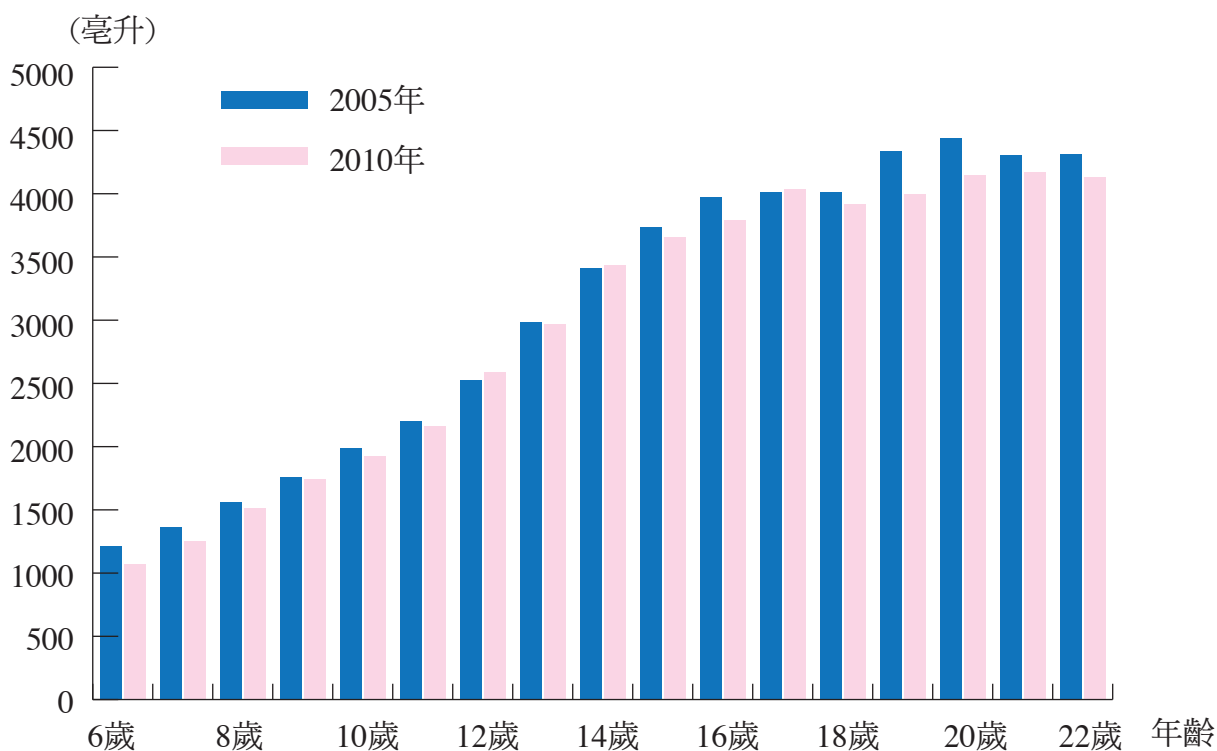


圖1 2005年與2010年澳門男生各年齡組肺活量平均數比較

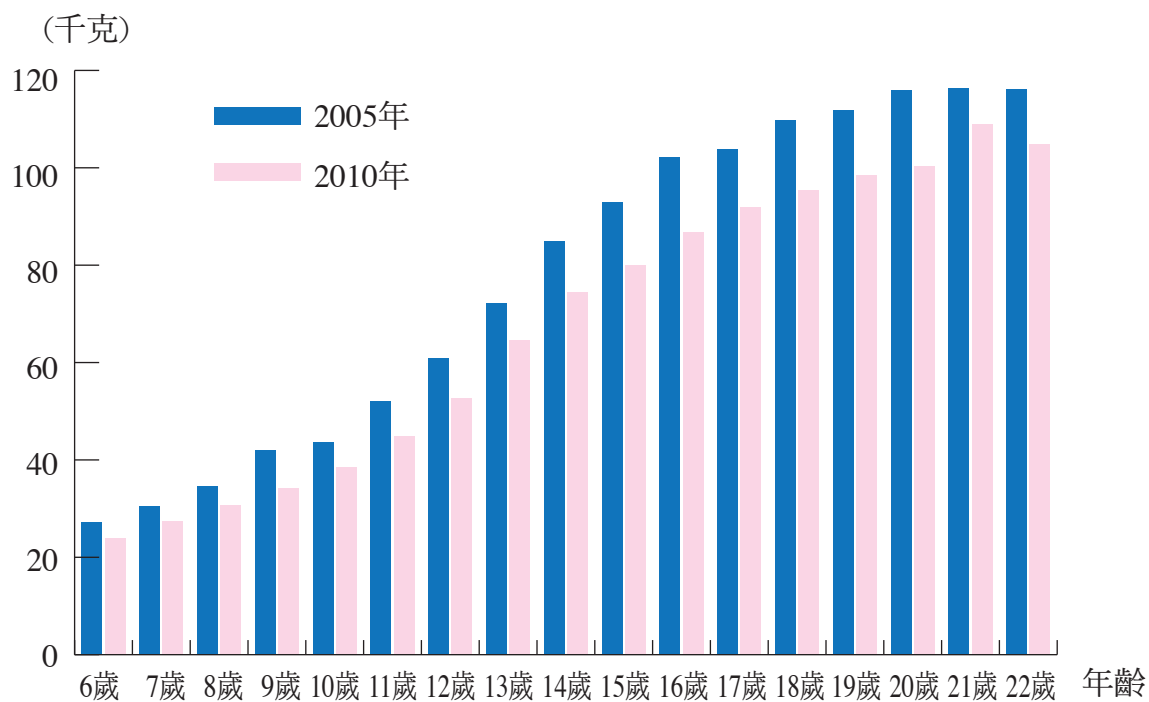


圖2 2005年與2010年澳門男生各年齡組背力平均數比較

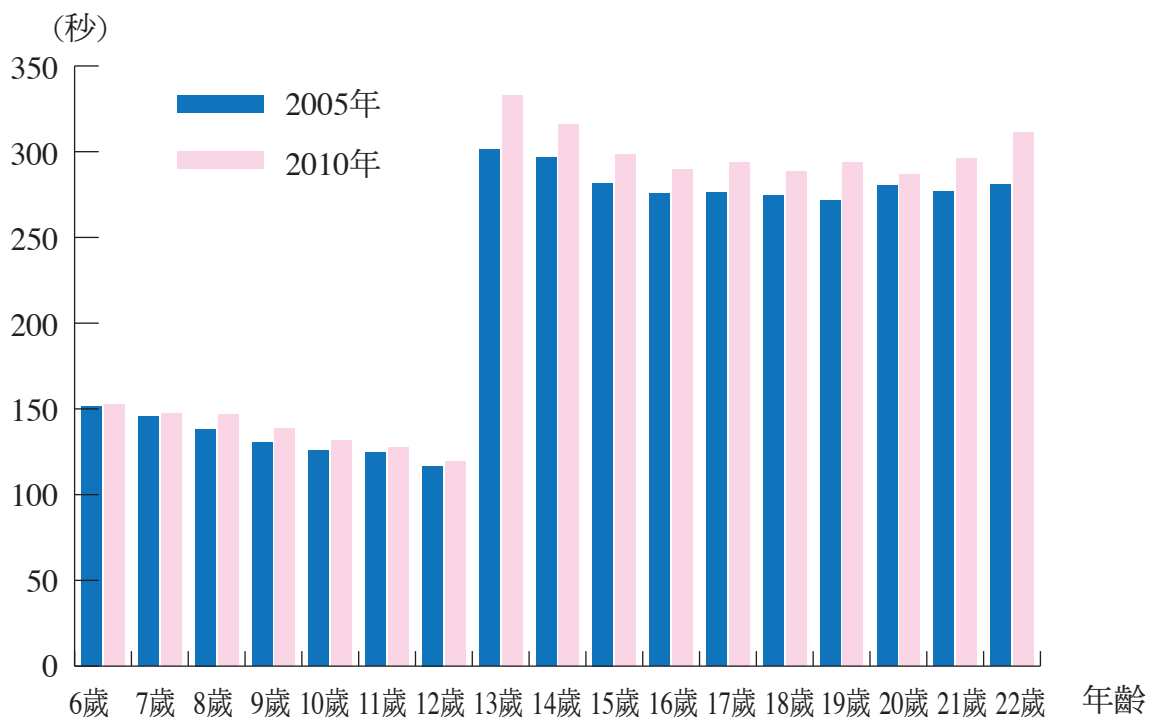


圖3 2005年與2010年澳門男生各年齡組耐力跑平均數比較

隨著社會的快速發展，人類在現代都市化的生活中節奏隨之加快，從2005年與2010年的問卷調查結果顯示，成年人每天步行時間在30分鐘以下的人數比例（47%）明顯比2005年（36.1%）高，平均每天坐姿活動累計時間在9小時以上的人數比例，2010年（20%）也較2005年（18.2%）高，雖然工作的時間多了，但隨著近幾年大眾體育的大力推廣，市民逐漸意識到參與體育運動對健康帶來的好處，在2010年的調查中，成年人閒暇時間選擇進行“視聽娛樂”的人數比例下降了，而選擇“體育鍛煉”的人數比例卻提高。至於老年人群，由於退休生活使閒暇的時間增多，而體育鍛煉逐漸成為老年人閒暇活動的主要項目，調查中顯示2010年老年人閒暇時間進行體育鍛煉的人數比例高於2005年。另外，缺乏時間及惰性依然是影響人們參加體育鍛煉的主要原因。

與2005年相比，2010年成年男女市民的台階指數總體呈增長的趨勢。身體素質方面，與2005年相比，2010年成年及老年人除力量素質下降外，其他身體素質大部份比2005年有所提高，這說明大眾體育的推廣在成年人及老年人中漸見成效。另外，成年人參加體育鍛煉的主要項目以步行、跑步及球類為主；老年人則以步行、武術、健身氣功、健身操（舞）為主，由於不同運動項目對個別身體素質發展的不同貢獻，力量素質較難得到全面發展，因此，今後大眾體育在運動項目的推廣上，可考慮引入更多以發展力量素質為主的鍛煉項目。

5. 討論與建議：

參與體育鍛煉，有助改善身體素質、預防疾病。發展大眾體育、推動市民參與體育鍛煉、養成終身體育的生活模式，一直以來是體育發展局的重要工作之一。而且，澳門特區政府由2005年開始實施每五年一度的澳門市民體質監測計劃，從而對澳門市民體質狀況的變化及相應體育政策的推廣成效有更好的監控作用。近五年來，兩次市民體質監測結果使我們初步得出以下小結：

(1) 2010年澳門市民體質總體水平比2005年略有提高，以老年人的提高幅度最大，其次是成年人。但幼兒、青少年學生均有不同程度下降，尤以青少年學生下降的幅度更大。

(2) 近幾年來，由於軟硬體的建設，大眾體育活動的參與人數呈現逐年上升趨勢，市民的健身康體活動日漸踴躍，但參與人群多集中於成年及老年人。2005年與2010年的數據比較，成年及老年人體質總體水平略有提升，提示大眾體育的推廣漸見成效，不過大眾體育的發展較難滲透到幼兒及青少年學生這兩個群體中，2010年幼兒、青少年學生的體育鍛煉程度下降，這或許是2010年幼兒、青

少年學生體質總體水平下降的原因之一。

(3) 應不斷提高大眾體育公共服務的質量，更有效整合澳門體育設施資源，在原有基礎上加快擴展大眾體育活動的規模，加大對親子運動、學生團體、不同職業人群方面的體育活動推廣，令更多不同層面的市民也能認識大眾體育的意義，培養恆常運動的習慣。而針對缺之時間是影響大眾參與體育鍛煉的首要因素，可透過工間操的開展，組織職工大眾體育競賽活動，以提高職工人群參加體育鍛煉者的比例。另外，針對澳門市民力量素質差的特點，重點推行力量素質訓練指引及在大眾體育項目中擴大以發展力量素質為主的鍛煉項目。

(4) 加強以學校為重點的青少年體育發展，保證幼稚園、中小學生及大學生每週均要有足夠的體育上課時數，同時保證運動課的質量，在體育課堂教學上除了運動技能的傳授外，更應加強學生體能的發展和興趣的激發，透過學校教育灌輸、培育學生建立終身體育的健康生活模式。

(5) 提高學生課外體育運動的參與率，可積極透過學校、體育社團合作的模式開展多樣化的課外體育活動形式，以指導學生開展有計劃、有目的、有規律的體育鍛煉。

(6) 建立分齡層的市民體質檔案，定期組織市民進行體質測試，實施市民體質監測和測評體系，旨在協助澳門市民了解自己的體質狀況，通過與健康體質標準的比較，發現身體鍛煉的必要性，從而推動大眾健身活動的開展。

6. 參考文獻：

- (1) 澳門特別行政區政府體育發展局. 2005年澳門特別行政區市民體質監測報告. 澳門. 2006.
- (2) 澳門特別行政區政府體育發展局. 2010年澳門特別行政區市民體質監測報告. 澳門. 2011.
- (3) 北京體育大學課題組. 澳門體育發展現狀與對策(總報告修訂稿). 2008.
- (4) 澳門體育發展局提供的內部資料.

Health Behaviour in School-aged Children (HBSC), a WHO collaborative cross-national study – Lessons to learn for researchers, practitioners and policymakers

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HBSC-Study is a unique international study about health behaviours, health perceptions and their determinants in 11,-13,-and 15-year old schoolchildren. The first HBSC study was conducted in 1983/84 in four countries (Finland, Norway, England, Austria), the second in 1985/86 and since data collection has been carried out every fourth years using a common research protocol. The most recent survey, the 8th in the series was conducted in 2009/2010 and the 9th survey will be conducted in 2013/2014. There are now 43 participating countries, most of the countries are from Europe but also North American countries USA and Canada are part of HBSC Network.

HBSC is a school-based survey. The data is collected through self-completion questionnaires administered in the classroom. The HBSC age groups are very important from health promotion point of view. These school-aged children represent the onset of adolescence, the challenge of physical and emotional changes as well as changes in health behaviours and perceived health. The survey questionnaire contains eg. the following health behavior; physical activity, sedentary behavior, eating and dieting, smoking, alcohol use, cannabis use, sexual behavior, violence and bullying, injuries. Indicators of health outcomes are eg. psychosomatic symptoms, self reported health, Body Mass Index.

HBSC-study has had important and globally well recognized impacts not only to scientific society but also to health promotion and health education as well as health policies. The national and comparative international findings have been widely disseminated to researchers, health and education policy makers, health and fitness promotion practitioners, school teachers, parents and young people themselves.

The purpose of this presentation is to firstly introduce in more detail the HBSC study. The presentation includes examples of results of physical activity and other health

behaviours. I'll also demonstrate some practical lessons which we in Finland have learned about the HBSC results and the social and policy impacts of the findings, especially messages from the time trends in physical activity and obesity. Secondly, some cross-country comparisons will be made based on the international HBSC study. The needs and approaches of health promotion will be discussed with regards to making the adolescence years more physically active and healthy.

In Finland, self reported leisure-time physical activity has increased during the last 25 years among 11-15-years-old children, and the proportion of of 11 to 15 year-old who perceive their physical fitness to be better was also larger in 2010 than for two decades ago. However, objectively measured physical fitness has declined in the same period. These opposite trends raise many questions and challenges for interpretation, and this situation and contradictory findings can be seen as a Physical Fitness Paradox. These discrepancies and contradictions could possibly be explained by an increase in adolescent sedentary behavior

Concerning the international comparisons the results of the HBSC study reveal that there are large cross-national differences in reported levels of daily moderate-to-vigorous physical activity (MVPA) for at least 60 minutes per day among 11-15 year-old school-aged children. In Finland the drop out phenomena seem to be more prevalent during adolescence years compared to many other countries.

In Finland the findings of HBSC study have got a lot of public visibility and raised a critical debate of the warning signals about young people's health and health behaviours. The findings of HBSC and some other national youth health studies have had an important impact to health and education policy. One of the most remarkable political impact has been the decision of the parliament to add health education as a new independent school subject to secondary and upper secondary schools. Just recently there have been launched a proposal for the parliament that physical education should have more hours and courses in the new school curriculum. Youth health surveillances play an important role in raising awareness of needs for action to promote health of school children.

The Faculty of Sport and Health Sciences at University of Jyväskylä, Finland and China Institute of Sport Science (CISS) have made collaborative research work as part of international HBSC network. The HBSC linked project conducted by CISS and Finnish

HBSC research group have made it possible to assess how HBSC survey instrument is applicable in the Chinese context. This HBSC linked collaboration may open the most interesting visions for the future.

Keywords: HBSC-Study, School-aged Children, Health Behaviours, Physical Activity, School Health Education

Sports for all Basis for a Healthy Future

Prof. Hans Holdhaus

Austrian Institute for Sports Medicine and Sciences

Quality of life is the product of health, performance and well-being. Many studies have clearly shown, that the current way of life and last but not least the performance pressure in the daily life (job, family, etc.) can influence life quality and in particular the health status dramatically. Civilization diseases like high blood pressure, muscle problems, obesity, burnout, etc. are logical results.

1995 the Austrian Institute for Sports Medicine and Science was asked by the Austrian Ministry of Sports to carry out studies to find not only the causes for the reduction of life quality but also to develop efficient projects to fight against these problems.

Knowing that information campaigns using TV-spots or articles in newspapers, leaflets but also public posters did not work in the past and did not change anything, we developed new models, focusing on individuals and specific groups, knowing, that there will never be a program that fits all groups of the population and particularly the individual.

The first project "Community in Motion" was focusing on communities. The aim was to influence or change the daily life of the inhabitants in a way accepted and used by the most part of the population and the different age groups. The study was realized in a market municipality named Hallstatt (Upper Austria) with an average population around 1000. Hallstatt is known as a very famous touristic attraction and was listed as an UNESCO World Cultural Heritage Site in 1997.

The first step was to inform the inhabitants about the project and in particular about the benefits for each one who will participate. With the support of the mayor but also other opinion leaders in the community, we could reach nearly all inhabitants. Several information events, like public discussions were organized to inform specific groups like families, workers, teachers, pupils, seniors, etc. appropriate. Center point was to develop programs for each participating individual and to form groups with common needs. The project started with an extensive investigation on the actual status of health, performance and well-being combined with a questionnaire to find out the personal interests of the participants.

The examinations (medical, sport motoric, anthropometric, etc.) lasted app. one week. More than 80% of the inhabitants of Hallstatt took part. One week later the individual results have been presented to each participant, combined with a personal consultation. The consultation included a detailed explanation of the test data's and the necessary consequences, e.g. activity programs, eating behaviour, recovery, etc. Based on the results, groups with similar interests or needs could be founded and started their programs immediately.

An evaluation took place one year later with excellent results: more than 70% of the participants changed sustainably their behavior on eating and activity permanently.

Another interesting project was focusing on business people. Main goal of the "Business in Motion" program was to influence employees to strengthen fitness, health and their personal well-being. Another aspect-very important for the management of the companies-was to reduce the days of absence caused by illness.

The content of the basic examination (medical, motoric, anthropometric, nutrition and activity) was similar to the community program. The project again starts with detailed information for the employees explaining not only the program but focusing on the individual benefits for each participant.

All necessary tests and examinations were carried out in the companies last but not least to save time. In average 2 hours per person were planned to carry out all the tests and consultations. The tests were organized in a circuit manner. At least 30 persons could be tested per day. The results were presented individually a week later.

Respecting personal data protection, the company did not get the individual results but a statistic summary, which was used to propose general further steps (e.g. change of companies food, implementation of group fitness programs, specific health programs which could be realized in the company, etc.). Again each project was evaluated after 6 or 12 months to show the sustainable changes.

Another very successful sports-for-all model was focusing on schools ("School in Motion"). In Austria a normal lesson lasts 50 minutes with a 5 min break between the lessons. A normal school day is six hours. Knowing that the typical activity in school is sitting, and sitting is not the typical way of life during childhood, we developed a program

to implement more activities in the daily school life. One focus was to implement a daily exercise lesson. Unfortunately it could not be realized for organizational reasons. So we changed the focus and implemented the model of an active lesson. The teachers were educated to break the lessons whenever necessary for 5 minutes to do exercises, e.g. some funny games or coordination exercises in the classroom. The consideration was not only to have regular short activities during the school day, but also to increase the concentration level. 50 min of concentration is far too much – not only for children. This model is running at the moment in a high school and will be scientifically followed. The final results should be available in July, but the observations showed a very good response. Pupils and teacher were very enthusiastic.

Another project focused on kindergarten children. The reason for this was a study on pupils (age 8–10). Medical investigations showed a high percentage of pupils with too high body fat, with backbone problems based on weak muscular system, joint problems and other severe illnesses including diabetes 2. Knowing that these problems do not arise from one moment to another, we decided to look into the prior age group, the kindergarten children (age 3–6). The results of the kindergarten study showed very clearly, that the problem indeed starts in the early childhood, at a time where nobody is thinking about possible future illnesses. The main reason for this bad development is the combination of less activity but too much food.

We developed a kindergarten model, named “kids-in-motion”, focusing on a high activity level in the kindergarten. Knowing that children are always copying what they see, we organized a further education program for kindergarten teacher. The program contains 6 one-day workshops with specific contents. The theorie-modul includes all necessary basic physiological but also psychological knowledge, last but not least to ensure a scientific background for the teachers when negotiating with parents. All other modules are focusing on specific contents like basic coordination, games, ball, water, etc.

The kids-in-motion model was followed scientifically over a period of 4 years. The data's collected in the kids-in-motion kindergarten–in comparison to a normal kindergarten–showed a very impressive difference in the general development of the children. The kids-in-motion participants were not only much more active, had not only much better coordination abilities and a very stable health, they were also much better from a cognitive point of view. A longitudinal study showed that the most of the participants were also the

best in the school.

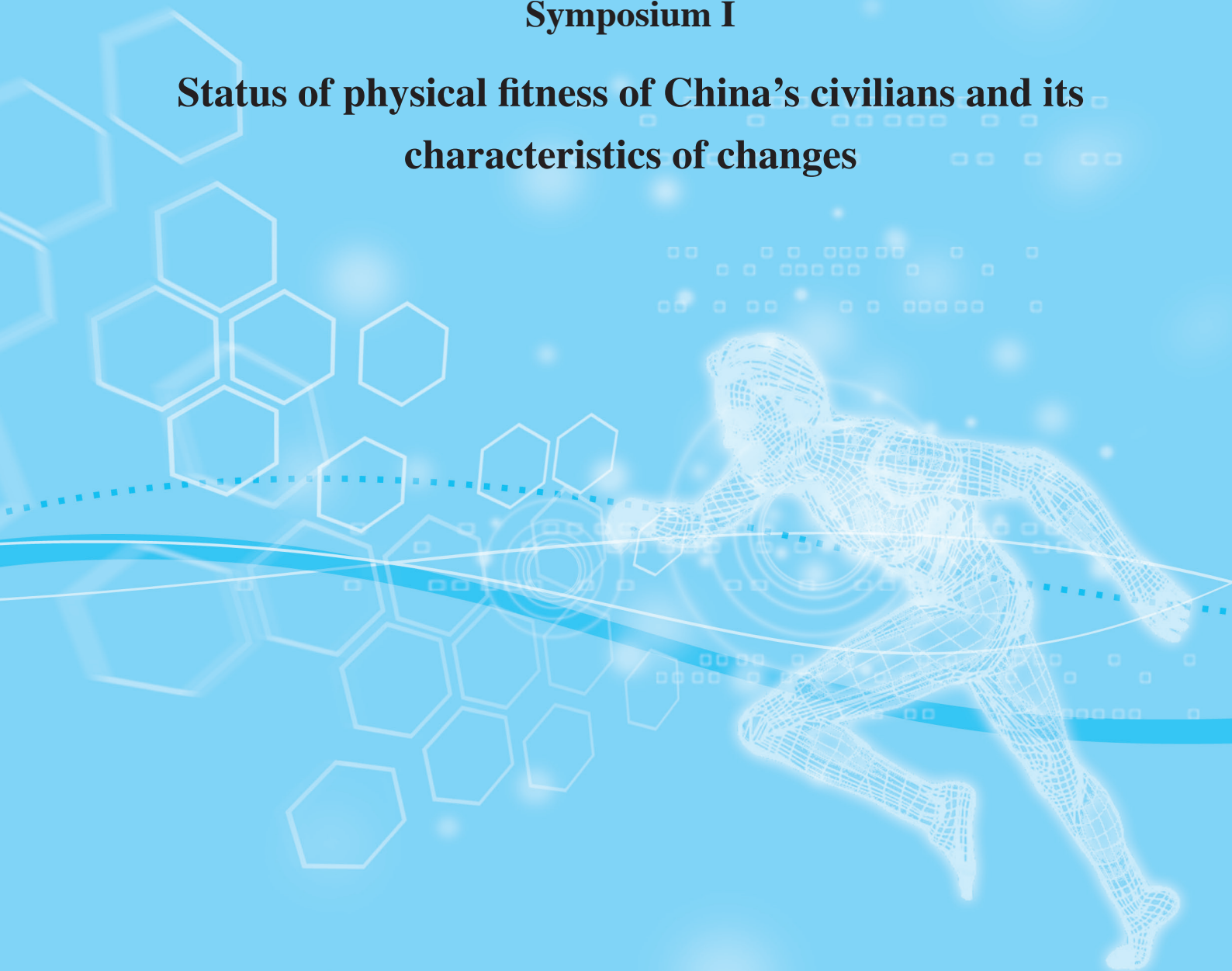
Last but not least, we also developed programs for seniors, focusing on coordination, flexibility, endurance and strength. This program “senior in motion” is also based on individual tests to detect the strong and weak points and to use it for the development of special individual programs. The acceptance from this age group was again excellent, last but not least because we could reach a significant change in their life style.

Our Sport for All programs (“In-Motion-Programs”) underlined how important it is to focus on individuals. Many programs for the public are insufficient, because they do not reach the individuals, they do not focus on individual needs and desire.

專題報告 I
中國國民體質現狀及變化特徵

Symposium I

Status of physical fitness of China's civilians and its
characteristics of changes



江西省10年來國民體質（2000~2010年）變化分析研究

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The Analysis and Study on the Variety in Civil Constitution during Ten Years Period Recently(from 2000-2010) in Jiangxi Province

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摘要

本文對2000年、2005年及2010年三次國民體質監測數據進行分析，對江西省國民體質10年來變化進行對比分析並提出相關的建議，結果顯示：

1. 10年來江西省國民體質監測綜合指數均高於全國平均值，國民體質的總體水平是上升的。
2. 江西省幼兒和老年人的體質整體處於上升階段。
3. 成年人體質變化不大，但優秀率和良好率較2000年有所下降。
4. 10年來各年齡段肥胖率有所增長。
5. 開展全民健身活動，落實《全民健身條例》的必要性。

關鍵字：國民體質，全民健身，身體形態，身體機能，身體素質

Abstract

The three national civil constitution monitoring data each for 2000, 2005 and 2010 year are analyzed in this study, and according to the comparative analysis results for dynamic variety in civil constitution during ten years duration recently; the suggestion are brought out. The study results shows: 1. the civil constitution composite index in Jiangxi are all greater than the relative average value of that in country, and the whole level of civil constitution in Jiangxi is rising; 2. the whole level in body constitution for the infants and

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the elders in Jiangxi is in the rising stage during this period.3.in the other way, there is rarely change in the adult's body constitution in Jiangxi, but compared with that in 2000,there are a relatively declinations in the excellent and good rate than in 2010; 4.the fat rates in each age division are all increasing a little during the ten years period;5.it is necessary to develop civil exercise and carry out the « civil exercise statute » in Jiangxi.

Keywords: civil constitution, civil exercise, body physique, body enginery, physical fitness

Status of Children's Physical Fitness, Capability Level Declining and Role of Traditional Play

Yoshihito Sato

Abstract

Background:

1. Depression and polarization of Physical Fitness and Capability: When we compare the level of Physical Fitness and Capability of Japanese Children now against children 30years ago, you could clearly notice that it has declined. Also it is noticed that children are becoming polarized to children that are keen in taking part in exercise and children that does not take part in exercises at all. The cause for this is to do with the decreasing level of the need for exercise, decreasing birth rates and change in the way children play these days.
2. Change of way in which children play: Children used to enjoy playing outside. Hide & Seek, Cops & Robbers, Kendama, Bean Bag; so called Traditional Play was seen all around the country. Taught from Grandparents to Parents then to their children. But since the TV and Portable Games came in, the traditional play has started to fade away. This trend also comes from the general atmosphere of preferring intellectual culture and decreasing of play grounds.

Case study: Role of schools passing traditional play to children: Schools teaching traditional play are increasing in numbers. The following are an example of when the traditional play is taking part. Multiage group activity time, break time, and “asobi-juku” (Ran by University students working to become teachers). By having these sorts of program, tradition is kept and taught to our next generations.

Results:

1. Physical fitness and capability: By introducing the Traditional play as a school activity the children will learn and originate in their own time. This then will gradually spread amongst the children leading to improvement of children's physical activity level. It is mentioned that to teach traditional play to infants before sports is important for it

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teaches them all sorts of movements.

2. Communication Skill: Recently in Japanese schools, lack of communication skills in children is also considered a major problem. In order to play it is essential to take communication between the children from the same age groups and multiage groups. The communication enables the children to teach each other the rules and look after ones that is not good at playing.

Conclusion: It is mentioned that communication skills, physical fitness and capability level has declined since the traditional play has faded away. It is expected that by bringing back traditional play in to our life, that will raise the level back up again.

KeyWords: traditional play, physical fitness, physical capability, communication skill, asobi-juku

吉林省城鄉60~69歲老年人體質狀況對比研究

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Comparative study of physical fitness of the elderly from 60 to 69 between urban and rural areas of Jilin province

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摘要

對城鄉老年人體質狀況進行對比研究，是揭示老年人現時體質狀況特徵及其社會成因的重要途徑，有助於指導和輔助群眾體育特別是老年體育的宏觀發展政策選擇與決策。本文依據2010年國民體質監測吉林省測試數據，採用隨機整群抽樣，抽取吉林省4個地區60~69歲老年人樣本840個，通過文獻資料、數理統計等方法，對城鄉老年人體質狀況進行對比分析研究。

研究結果表明，吉林省城鎮和鄉村老年人體質呈現出優良率與不合格率均小於合格率的“兩頭小、中間大”的總體分佈狀況，城鎮老年人體質狀況整體上優於鄉村。城鎮和鄉村老年人在身體形態、機能、素質等方面都存在一定差異。城鎮老年人身體形態指標平均數大於鄉村老年人，特別是體重超重、體脂含量超標、肥胖的人數較多，主要在於生活水平提高後飲食方面攝入了過多的熱量、脂肪等物質，運動量不夠，並與交通出行方式的改變有關，這也是導致城鎮老年人高血壓、高血脂、糖尿病及冠心病發病率升高的主要原因之一。在身體機能的對比中，不同指標城鄉各有優劣。城鎮老年人身體素質總體上好於鄉村。

生活方式、體力活動等分析表明，出行方式、飲食習慣、醫療衛生基礎、體育設施條件、閒暇活動方式等方面的差異，是吉林省60~69歲城鄉老年人體質狀況差異影響因素的組成部分。建議選擇符合實際、可行措施，逐步改善城鄉老年人體質狀況，包括：完善城鄉老年人體育健身推進機制，加大組織引導和科學指導力度，組織形式多樣、適合老年人特點的體育健身活動，改善城鄉適合老年人

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的體育設施條件，宣導適合老年人的體育健身觀念和科學健身方法，強化對城鄉老年人的體育與衛生服務，提高科學飲食等良好的日常生活習慣等。政策選擇應考慮在城鄉統籌的基礎上，適當向鄉村傾斜，以縮小城鄉差異，實現老年人體質狀況的共同改進和提升。

關鍵字：老年人，體質，城鄉

Abstract

A comparative study of the physical fitness of urban and rural elderly is to reveal the elderly present physical fitness characteristics and its social causes. It is an important way to help guide and support mass sports, especially older sports macro development policy options and decision-making. Based on 2010 National Physique Monitoring, Jilin Province, test data, using random cluster sampling, extraction of four regions in Jilin Province, 840 samples from 60 to 69 years old. I analyzed the physical fitness between urban and rural elderly comparatively through literature, statistics and other methods.

The results show that, Jilin Province, the excellent rate and failure rate of the physical fitness of the aged in towns and villages is less than the passing rate, which is characterized by “smaller in the edge and bigger in the middle” overall distribution. The urban elderly physical fitness on the whole is better than that of the rural. Differences in terms of body shape, function and quality between urban and rural elderly are noticeable. Mean body shape index for urban elderly are bigger than that of rural elderly. Overweight, excessive body fat are much more common in urban areas mainly because of the improved living standards that people intake excessive calories, fat and other substances, lack of exercise and the change in the way of traffic travel. It also contributed to one of the causes for the rising rate of hypertension, high cholesterol, diabetes and coronary heart disease incidence rate among urban elderly. In the comparison of the bodily functions, people from urban and rural areas have their respective advantages and disadvantages in different indicators. However, the urban elderly physical fitness is overall better than that of the rural areas.

Lifestyle, physical activity analysis showed that the differences in travel, eating habits, medical and health care, sports facilities, conditions, leisure activities and methods is an integral part of Jilin Province, 60 to 69-year-old urban and rural elderly physical fitness differences affect factors. Thus the following suggestions are recommended to choose

realistic and feasible measures and gradually improve the physical condition of urban and rural elderly, including: To improve the fitness of urban and rural elderly propulsion mechanism; To increase the scientific guidance and organizational forms of fitness activities for the elderly characteristics; To improve urban and rural sports facilities, conditions suitable for the elderly, advocating ideas of fitness and scientific exercise for the elderly; To reinforce the importance of sports and health services; To improve science diet and good daily habits for the elderly. Policy options should consider the unity of the urban and rural areas. At the same time, pay more attention to the interest of rural residents in order to narrow the urban-rural gap and achieve common improvement and upgrading of the physical fitness of the elderly.

Key words: elderly, people, physical fitness, Urban and rural

2010年福建省成年人體質現狀與變化規律的研究

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Research on changes of physical fitness and the status in Fujian Province adults 2010

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摘要

研究目的：本研究旨在以福建省國民體質監測工作的成果，對2010年福建省成年人體質現狀進行全面瞭解，並通過與2005年進行比對分析，瞭解五年來福建省成年人體質的變化規律，探索適合於提高福建省成年人體質水平的方法。

研究對象與方法：

研究對象：按照《國民體質監測工作規定》的要求，抽取福州、廈門和三明三個地市進行國民體質監測。2010年與2005年分別獲取了20~59歲成年人有效樣本5026人及7614人。

研究方法：對2010年與2005年20~59歲成年人體質監測數據進行比較分析，其中體質綜合評價採用描述性統計，單指標採用獨立樣本T檢驗，所有數據均在spss13.0中進行分析。

結果與分析：

1. 綜合體質水平：2010年與2005年相比較，成年人的體質合格率有了一定的提高，其中女性成年人體質合格率的提高幅度要明顯大於男性成年人提高的幅度，鄉村成年人提高的幅度要明顯大於城鎮成年人提高的幅度。

2. 身體形態：2010年與2005年相比，20~59歲組成年人BMI值略微提高，但並不存在顯著性變化，且BMI均值基本處於正常水平。

3. 身體機能：2010年與2005年相比成年人機能水平具有顯著性提高。

4. 身體素質：2010年與2005年相比，20~59歲成年人素質指標部分提高部

分下降，素質指標提高不明顯。

結論與建議：

結論：

1. 2010年福建省成年人體質水平較好，與2005年相比體質水平有所提高，其中女性與鄉村成年人體質水平提高較快。

2. 2010年福建省成年人身體機能水平顯著提高。身體形態與素質變化不明顯，還有待提高。

建議：

1. 五年以來隨著農民健身工程的開展，福建省農村成年人體質水平得到了顯著提高。但是農村成年人體質水平還是低於城鎮，因此未來五年內應繼續保持農民健身工程的開展，並加強力度。

2. 由於福建省女性相對於男性要更經常參加健身活動，所以成年女性的體質水平提高較快，因此應該在未來五年內加強男性成年人的健身活動組織力度。

3. 2010年福建省成年人身體機能水平提高顯著，但是形態與素質變化不明顯。建議今後福建省成年人應注意改善飲食結構與習慣，宣導成年人進行科學合理的體育鍛煉，並注意在運動中加強平衡與柔軟等素質練習。

4. 為了讓更多的成年人參與到科學合理的健身活動中，從而全面提高福建省成年人體質水平。政府應該提高宣傳力度、組織不同的健身娛樂活動提高民眾參與的積極性。在社區建立體質監測以及健身指導站點，並委派健身指導員為不同年齡、性別、體質水平的居民提供有針對性的健身指導方案，從而做到真正的科學合理健身。另一方面應該加強企事業單位的管理，爭取將體質測試納入每年例行體檢的測試項目，並針對體質水平不同者施行一定的獎懲機制，使更多的企事業單位員工充分認識到體質健康的重要性，從而真正的參與到體育健身中。

關鍵字：福建省，成年人，體質現狀，變化規律

Abstract

Purpose: This study is based on the physical monitoring results of Fujian Province to understand the physical fitness of Fujian Province adults in 2010, and to compare with

the one of 2005, and then understand the rule of physical fitness changes, and explore methods for improving the level of adult physical fitness.

Subjects and methods:

1. Subjects: According to the Physical Fitness Surveillance requirements, extract three cities including Fuzhou, Xiamen and Sanming for physical fitness surveillance. To get effective samples of adults age 20 to 59 in total 5026 of 2010 and in total 7614 of 2005.
2. Methods: To compare and analysis the data of the physical monitoring in the age 20 to 59 of 2010 and 2005, and use descriptive statistics for physical fitness comprehensive evaluation, independent T test sample for single index, and all the data analysis is under the spss13.0.

Result and analysis:

1. Comprehensive physique level: In 2010 compared with 2005, the physical qualified rate of the adults has been increased, with the female adults' physical qualified rate increasing is significantly greater than the male adults', and the rural adults' physical qualified rate increasing significantly greater than the town adults'.
2. Body form: in 2010 compared with 2005, 20 to 59 years old group adults BMI slightly increasing, but does not have significant changes and the mean BMI basically in a normal level.
3. Body function: in 2010 compared with 2005 adults have significantly improved the level of function.
4. Physical quality: in 2010 compared with 2005, part of quality indexes in 20 to 59 years old adults have been decreased, and the improve quality index is not clear.

Conclusion and suggestion:**Conclusion:**

1. 2010 in Fujian province adult physique level is better, compared with 2005, with women and rural adult physique level improve faster.
2. 2010 in Fujian province adult body function level has been significantly enhanced. Body shape and quality change not significantly, and need to be improved.

Suggestion:

1. With 5 years of fitness project for migrant workers, the physique level of the Fujian province rural adults has increased significantly. But rural adult physique level is still below the level of the town's, and for the next five years, it is continue to remain the body-building project of rural migrant workers, and strengthen enforcement.
2. Female in Fujian province take part in the fitness activities more often than the male, so the female adults' physique level improves faster, therefore, in the next 5 years it should be strengthen organization strength of the male adult fitness activities.
3. 2010 Fujian province adult body function levels increase significantly, but the form and quality change not significantly. Suggest that Fujian province adults should pay more attention to adjusting dietary structure and habits, and pay more attention to in the motion of balance and soft power quality training, etc.in the future.
4. In order to let more adults participate in scientific and reasonable fitness activities, and then improve the whole physique level of the adults in Fujian province. The government should improve propaganda, and the enthusiasm of people to participate by organizing different fitness entertainment activities. To establish constitution monitoring point and fitness guidance site in the community, and delegate fitness instructor for different age, gender, physique level providing targeted fitness guidance solutions in order to achieve the real scientific and reasonable fitness. On the other hand, to strengthen the management of the enterprises and institutions, aiming at getting physical tests into a medical test program every year, and in the light of the different physique level of certain, to establish mechanism of reward and punishment, making more enterprise and staff fully awaring of the importance of physical health, and beign really involved in the sports fitness.

Keywords: Fujian, adults, physical status, the change rule

Physical Activity Of Chinese Children

Deng pengyu, Hisashi Naito, Shizuo Katamoto

Abstract

Purpose: China has experienced marked increases in the prevalence of childhood overweight/obesity over the last few decades. To examine the current levels of physical activity of normal and obese children in Loudi city of China.

Methods: Participants in this study were 7 years old primary school students. The samples consisted of normal weight (NW) and obese weight (OW) children. Normal or obese weight was determined by BMI according to Working Group for Obesity in China cut offs (BMI > 19.2 for obese boy and BMI > 18.8 for obese girl). The physical activity was quantified by one axis-accelerometer (LifecorderEX, Susuken, JAPAN) measuring total energy expenditure, daily step counts, and daily moderate-vigorous physical activity (≥ 3 METs, MVPA), on 2 weekdays and 2 weekends.

Results: OW children were significant lower total energy expenditure than NW children during weekdays ($P < 0.01$) and weekends ($P < 0.001$). OW children had less physical activity and low daily steps counts on weekends compared to weekdays, which were statistically not different.

Conclusion: Our findings suggest that the cause of over weight or obese weight children in Loudi of China may be lack of physical activities. Furthermore, effort needs to be devoted to promoting activity at the weekend, especially amongst over weight or obese children.

Keywords: Physical activity, Children, Accelerometer, Step

山西省20~69歲人群體重超重和肥胖的研究與分析

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Study and Analysis on the Overweight and Adiposity for the Throng of 20~69 Years old in Shanxi Province

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摘要

研究目的：體重超重和肥胖導致體內脂肪積聚過多，研究資料表明肥胖已是全世界最重要的慢性病誘發因素之一，為準確掌握山西省成年和老年人五年間體重變化的情況，本文以山西省第三次國民體質監測20-69歲人群為研究對象，旨在探索和瞭解體重超重和肥胖的現狀和影響因素，為科學健身提供數據支撐。

研究方法：採用國家國民體質監測的問卷，對監測人群進行問卷調查，掌握該人群參加體育鍛煉的情況。按照國家國民體質監測中心制定的測試細則，對監測人群進行身高和體重測定，計算BMI指數，結果用率表示，顯著性差異用 α 檢驗，以 $P < 0.05$ 為具有統計學意義。

研究結果：

1. 不同人群隨著年齡的增長體重超重率和肥胖率均有所增加。40-69歲人群體重超重率超過體重正常率（ $P < 0.01$ ），肥胖率大多數人群超過了12.0%。

2. 城鎮除20-39歲女性人群外，其他人群體重超重率、肥胖率分別超過36.6%和12.5%。農村男性40-59歲、女性40-69歲人群體重超重率大於體重正常率（ $P < 0.01$ ）；男性肥胖率大於10.0%，女性除20-39歲外，其他人群肥胖率大於20.0%。男女體力和非體力勞動者體重超重率隨著年齡的增長而增加，40-59歲人群體重超重率大於體重正常率。大多數人群肥胖率超過12.4%。

3. 與2005年相比，各人群體重超重率和肥胖率顯著增加（ $P < 0.01$ ）。城鎮男性20-59歲人群體重超重率和肥胖率顯著增加（ $P < 0.01$ ），60-69歲人群肥胖率

明顯增加 ($P < 0.05$) ; 女性20-39歲人群體重超重率和肥胖率明顯增加 ($P < 0.05$) 。鄉村男性20-39歲人群體重超重率、肥胖率和40-69歲人群肥胖率顯著增加 ($P < 0.01$) ; 女性20-59歲人群肥胖率顯著增加 ($P < 0.01$) , 60-69歲人群體重超重率明顯增加 ($P < 0.05$) 。在體力勞動者中男性20-39歲人群肥胖率和40-59歲人群體重超重率及肥胖率顯著增加 ($P < 0.01$) ; 非體力勞動者中20-59歲男性人群肥胖率顯著增加 ($P < 0.01$) 。

4. 20-59歲人群中經常參加體育鍛煉的為8.5% , 60-69歲為11.5% ; 城鎮人群參加體育鍛煉的人數多於鄉村5.8% ($P < 0.01$) 。

主要結論 :

1. 不同人群體重超重率和肥胖率隨著年齡的增長均有所增加, 差異明顯。
2. 男性體重超重率發生較高, 男女大數數人群肥胖率超過了12.0%。
3. 年齡40歲後體重更易超重和肥胖, 且男性多於女性, 城鎮多於鄉村。
4. 五年間不同人群體重超重率和肥胖率分別增加了2.0%和2.8%。
5. 農村經常參加體育鍛煉人數偏少。

關鍵字 : 體重超重, 肥胖, 分析

Abstract

Research purpose: Being overweight and adiposity can lead to too much body fat accumulation, research data shows that adiposity is already the world's most important one of the inducing factors of chronic disease, in order to accurately grasp the changes of the weight for the adult and the old people within 5 years in Shanxi Province. In this paper the third national constitution monitoring in Shanxi Province 20-69 years old through is as the research object, aim at exploring and understanding the status and influencing factors of overweight and adiposity, and provide the support for science fitness data.

Research method: Adopt the national civil constitution monitoring survey, hold an inquiry into the monitoring through, grasp the status of taking part in physical training. According to the national civil constitution monitoring center of the detailed rules for the test, hold an assay into the height and the weight of monitoring through, compute the BMI

index, the result of rate of operation shows that the significance difference is tested by u, $P < 0.05$ has statistical significance.

Research results:

1. The overweight and adiposity rate of different throngs are increased as the growth of the age. The overweight rate at the age of 40-69 years old throng passed the normal rate of weight ($P < 0.01$), for a great majority of adiposity rate passed 12.0%.
2. Apart from at the age of 20-39 female throng in cities and towns, the overweight rate and adiposity rate respectively passed 36.6% and 12.5%. At the age of 40-59 male and 40-69 female throngs at rural area, the overweight rate is greater than normal weight rate ($P < 0.01$); The male adiposity is greater than 10.0%, apart from the age of 20-39 female, the rest of the adiposity of throngs are greater than 20.0%. The overweight rate of both male and female manual and nonmanual workers are increased with the growth of age. The overweight rate at the age 40-59 throng is greater than the normal weight rate. The adiposity of a majority of throngs are greater than 12.4%.
3. Compared with 2005, the overweight and the adiposity rate for every throng dramatically increased ($P < 0.01$). The overweight and adiposity rate at the age of 20-59 male throng in cities and towns dramatically increased ($P < 0.01$), the adiposity rate at the age of 60-69 throng is dramatically increased ($P < 0.05$); The overweight and adiposity rate at the age of 20-39 female throng dramatically increased in cities and towns ($P < 0.05$). The overweight and adiposity rate at the age of 20-39 years old male throng and at the age of 40-69 throng are dramatically increased in rural area ($P < 0.01$); The overweight and adiposity rate at the age of 20-59 female throng and at the age of 60-69 throng are dramatically increased in rural area ($P < 0.05$). The adiposity rate at the age of 20-39 male manual workers and the overweight rate and the adiposity rate at the age of 40-59 male manual workers throng are dramatically increased ($P < 0.01$); The adiposity rate at the age of 20-59 male nonmanual workers throng are dramatically increased ($P < 0.01$).
4. At the age of 20-59 throng who frequently participate in physical training is 8.5%, at the age of 60-69 is 11.5%; the number of throng participate in physical training in cities and towns is more than 5.8% the one in rural area ($P < 0.01$).

Main conclusion :

1. Different groups of the overweight and the adiposity rate with the growth of the age are increased and the differences are significant.
2. The overweight rate of male is higher than others, the adiposity rate of a great majority of people passed 12.0%.
3. The weight after 40 years old is easy to become overweight and adiposity, moreover male is more than female, the cities and town are more than rural area.
4. Different groups of the overweight and adiposity rate within 5 years are respectively increased 2.0% and 2.8%.
5. The number of people in rural area participate in regular physical training is precious little.

Keywords: overweight, adiposity, analysis

江蘇省成年人肥胖與高血壓的分佈變化趨勢研究

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Distribution Tendency Study of Adults' Obesity and Hypertension in Jiangsu Province

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摘要

目的：瞭解江蘇省成年人肥胖與高血壓的關係及分佈變化趨勢，為肥胖與高血壓的防治工作提供科學依據。

方法：利用三次國民體質調查資料，分析高血壓與肥胖的分佈及關係；並建立江蘇省國民體質監測GIS數據庫，採用空間局部內插分析方法構建江蘇省成年人高血壓與肥胖空間分佈的數位高程模型。

結果：共調查85371人，男性高血壓患病率為21.4%高於女性的14.1% ($P < 0.01$)。農村發生高血壓的比例為21.5%高於城鎮的15.7% ($P < 0.01$)；高血壓患病率隨著年齡和體重指數的增加而上升 ($P < 0.01$)。肥胖是導致高血壓的危險因素，且年齡越小，肥胖致高血壓的風險越高。成人肥胖導致高血壓總的OR值為2.66 ($P < 0.01$)，其中女性為2.42 ($P < 0.01$)，男性為2.69 ($P < 0.01$)。高血壓的空間分佈圖顯示，2000年成人高血壓的高發地區主要聚集與江蘇北部，在江蘇南部同時存在著高血壓患病率相對較高的區域。在隨後的十年間，北部的高發區域已經逐步蔓延到江蘇中部地區，而江蘇南部高血壓人群的範圍雖然沒有明顯擴大，但是高血壓患病率卻有明顯上升。肥胖的空間分佈圖顯示，2000年江蘇省成人肥胖高發區域主要集中在北部地方，從北部向南部肥胖率逐漸下降，從西部向東部肥胖率也呈現下降趨勢。但在隨後的十年間，北部與中部兩個高發區域範圍進一步擴大，而且有逐漸融合的趨勢。

結論：江蘇省肥胖與高血壓的患病率存在空間分佈差異，兩者的高發區域都在逐漸擴大，提示肥胖與高血壓的防控形勢不容樂觀。

關鍵字：肥胖，高血壓，地理訊息系統，空間分佈，克裏格差值法

Abstract

Objective: To find out the relationship and distribution tendency between adults' obesity and hypertension and to provide the scientific basis on obesity and hypertension's prevention in Jiangsu Province.

Methods: Through three-time national physical fitness survey data, the distribution and the relationship between hypertension and obesity were analyzed. GIS database of national physical fitness surveillance was established. Using a spatial local interpolation technique, the digital elevation models of the spatial distribution on adults' hypertension and obesity in Jiangsu province were constructed.

Results: In total of 85371 investigated sample, male hypertension prevalence was 21.4% higher than that of the 14.1% women ($P < 0.01$). Rural hypertension ratio was 21.5% higher than the 15.7% towns ($P < 0.01$). Both in male and in female, their hypertension prevalence was increased with age and BMI increasing ($P < 0.01$). Obesity is a risk factor leading to high blood pressure. And the younger, the higher the risk of obesity-induced hypertension. Total OR value in Adult obesity leading to hypertension is 2.66 ($P < 0.01$), in which the female is 2.42 ($P < 0.01$), the male of 2.69 ($P < 0.01$). Hypertension spatial distribution map display, the areas of high prevalence of adult hypertension mainly aggregated in Northern Jiangsu. Relative high area of hypertension prevalence existed in the south of Jiangsu. In the subsequent ten years, high-risk areas had gradually spread to the central region of Jiangsu. While hypertensive population range in the southern Jiangsu not obviously enlarged, but the prevalence of hypertension had increased significantly. Obesity spatial distribution map display, adult obesity risk zone mainly concentrated in the northern region of Jiangsu province. From the north to the south, obesity rate decreased gradually. From west to east, the rate of obesity also showed a downward trend. But in the subsequent ten years, two high-risk areas of the northern and the central further expanded the scope and showed gradually blending trend.

Conclusion: In Jiangsu Province, obesity and hypertension prevalence existed spatial distribution differences. Both high-risk areas are expanding gradually. The situation of preventing and controlling hypertension and obesity is not optimistic.

Keywords: obesity, hypertension, geography information system, space distribution, Kriging method

北京市成年人和老年人超重和肥胖檢出率的研究

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Change in the prevalence of overweight and obesity among residents in Beijing

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摘要

研究目的：研究北京市成年人和老年人不同分組人群之間超重和肥胖檢出率之間的差異，以期能夠為今後研究造成北京市城年人群體質差異原因奠定一定的理論基礎，為進一步加強對市民的科學健身指導和服務提供參考依據。

研究方法：採用實驗法，測量身高、體重指標，用其派生指標體重指數（BMI）對樣本進行分類。

研究結果：

1. 2010年北京市成年人和老年人總體超重檢出率分別為35.7%和41.6%，肥胖檢出率分別為16.5%和23.0%。男性成年人和老年人超重檢出率分別為40.9%和42.6%，肥胖檢出率分別為19.5%和17.1%；女性成年人和老年人超重檢出率分別為30.6%和40.7%，肥胖檢出率分別為13.6和28.6%。與國家相比，北京市成年人和老年人超重檢出率分別高出3.6和1.8個百分點，肥胖檢出率分別高出6.6和10.0個百分點。

2. 20-69歲男性超重檢出率高於同年齡組女性，呈顯著性差異（ $p < 0.05$ ）。20-49歲男性肥胖檢出率高於同年齡組女性，呈顯著性差異（ $p < 0.05$ ）；50-69歲男性肥胖檢出率低於同年齡組女性，呈顯著性差異（ $p < 0.05$ ）。

3. 除25-29歲和35-39歲年齡組外，其他各年齡組鄉村居民超重檢出率均低於同年齡組城鎮居民，呈顯著性差異（ $p < 0.05$ ）。20-64歲鄉村居民肥胖檢出率均高於同年齡組城鎮居民，呈顯著性差異（ $p < 0.05$ ）；65-69歲鄉村居民肥胖檢出率低於同年齡組城鎮居民，呈顯著性差異（ $p < 0.05$ ）。

4. 與2005年相比，除35-39歲和45-49歲年齡組外，2010年其他各年齡組成年人和老年人超重檢出率均高於2005年，呈顯著性差異（ $p < 0.05$ ）；2010年20-49歲和65-69歲年齡組成年人和老年人肥胖檢出率均高於2005年，呈顯著性差異（ $p < 0.05$ ）；2010年50-64歲成年人和老年人肥胖檢出率低於2005年，無顯著性差異。

結論：

1. 北京市成年人和老年人超重和肥胖檢出率高於全國水平。各年齡組超重檢出率遠高於肥胖檢出率，超重已經成為影響北京市成年人和老年人身體健康的主要問題。

2. 北京市男性成年期身體脂肪快速增長階段延長，男性患肥胖的風險性增加。

3. 北京市鄉村成年人和老年人肥胖檢出率高於城鎮，城鎮成年人和老年人患肥胖的風險性高於鄉村，城鄉差異縮小。

關鍵字：超重，肥胖，健康，體質

Abstract

Aims: Determine the difference in the prevalence of overweight and obesity among adult and old people in Beijing so as to lay theoretical foundation for research physical fitness of beijing residents.

Methods: Measured the height and bodyweight of subjects and classified them with body mass index (BMI).

Results:

1. The prevalence of overweight among adults and old people in Beijing are 35.7% and 41.6% respectively while the prevalence of obesity are 16.5% and 23.0% respectively. The prevalence of overweight among adults and old people are larger than the data of the nation with 3.6 and 1.8 percentage points respectively while the prevalence of obesity among adults and old people are larger than the data of the nation with 6.6 and 10.0 percentage points respectively.

2. The prevalence of overweight among male aged between 20-69 is significant higher than that among female in equal age. The prevalence of obesity among male aged between 20-49 is significant higher than that among female in equal age.
3. The prevalence of overweight among every age group of rural residents is significant higher than the same age group of urban residents except 25-29 and 35-39 year group. The prevalence of obesity among the rural residents in 20-64 year is significant higher than the same age group of urban residents.
4. The prevalence of overweight among adults and old people in 2010 is significant higher than 2005 except 35-39 year group and 45-49 year group. The prevalence of obesity among 20-49 year group and 65-69 year group in 2010 is significant higher than 2005.

Conclusion:

1. The prevalence of overweight and obesity among adults and old people are higher than the data of the nation. The prevalence of overweight among every year group is very higher than the prevalence of obesity so that overweight has become the main factor on health of adult and old Beijing residents.
2. Fast increasing phase of fat among adults in Beijing has prolonged and the risk of obesity increased.
3. The prevalence and risk of obesity among rural residents is higher than urban residents. The risk of obesity while the difference is decreasing.

Key words: overweight, obesity, health, physical fitness

上海市成年人體力活動現狀分析

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Adult Physical Activity in Shanghai: the Current Situation

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摘要

目的：通過對上海市成年男女不同體力活動水平的人群分佈特徵進行分析，為科學健身指導提供理論依據。

方法：基於2010年上海市國民體質監測成年人（20歲~59歲）問卷體力活動部分的數據，根據2008年美國體力活動指南劃分的體力活動等級，對上海市成年人不同體力活動等級的性別、年齡、體力活動類型、體質得分優秀率和達成率的分佈特徵進行描述性統計和單因素方差分析。

結果：

1. 上海成年男、女分別有45.5%和45.8%的人群體力活動水平未達到通常建議的中等以上體力活動等級；男性30~44歲，女性25~39歲體力活動達成率最低。40歲後體力活動水準達到建議標準的人群比例隨年齡增大而增加。各年齡段男性均有超過10%的人群體力活動過量，45~59歲女性體力活動過量人群也超過10%。

2. 對體力活動類型分佈進行分析的結果顯示，不論男女，體力活動水平達到中等和高水平的人群，騎車、交通步行、閒暇步行、中等強度體力活動水平都明顯高於低水平體力活動和不活躍組， $P < 0.01$ 。而高水準體力活動的人群中，不論騎車、交通步行、閒暇步行所占比例均是中等強度體力活動水平組的2倍，其中，中等強度鍛煉水平所占的比重尤其高，男女分別高達3.32%（95%置信區間：3.07%~3.57%）和3.99%（95%置信區間：3.71%~4.28%）。體力活動過量者，多因工作中體力活動強度過大所致，此外，大強度鍛煉和重家務勞動所占比重也較高。

3. 不論男女，隨著體力活動等級的提高，體質優秀率逐漸提高。但超量體力活動量和高水平體力活動量等級的體質不合格率的比例也較高。

結論：近半數的上海成年男、女體力活動水準等級為不活躍或低水平體力活動；達到通常建議的中等或高水平體力活動的人群比例，隨年齡增大呈U字形分佈；超過一成的成年男性為過量體力活動人群，女性過量體力活動人群隨年齡增加而增長。中等或高水平體力活動人群日常生活中騎車、交通步行、閒暇步行、中等強度鍛煉比例明顯高於不活躍和低水準體力活動人群，高水平體力活動人群的中等強度鍛煉比例最高；過量體力活動人群大強度工作時間所占比例最高，大強度體育鍛煉比例也偏高。不同體力活動等級的體質評價結果顯示，體力活動水平越高體質評分的優秀率越高。

關鍵字：體力活動，成年人，分佈特徵

Abstract

Objective: To provide the theoretical support for the guidelines of physical activity and fitness by analyzing the features of the distribution of different levels of physical activities of adults in Shanghai.

Methods: Based on the data from the Adult Section (20~59 years old) of 2010 National Physical Fitness Surveillance in Shanghai citizens, and according to the Classifications of 2008 Physical Activities Guidelines for Americans, our research did descriptive statistics and one-factor analysis of variance on the distribution features of the gender, ages, types of physical activities, fitness excellence ratio and the fitness standard reaching ratio of different levels of physical activities of adults in shanghai.

Results:

1. 45.5% males and 45.8% females failed to meet the standard of recommended moderate physical activities. Adults who met the standard of recommended physical activities increased along with the age older after 40 years old, while the ratio in 30~44 years old males and 25~39 years old females were the lowest. There were 10% males in all age brackets and 45~49 years old females whose physical activities were in excess of standard level.
2. The analysis of the distribution of types of physical activities showed that of all the

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genders, the people who met the standard of moderate and high level of physical activities bicycled, walked(both for transportation and leisure), do moderate physical exercises markedly more than the people who only met the standard of low level of physical activities or inactivity($P<0.01$). And the ratio of bicycling, moderate physical exercises, walking for transportation and walking for leisure in people with high level of physical activities was twice as large as the ratio in people with moderate level of physical activities, specially the ratio of moderate physical exercises, with the ratio of 3.32%(95% CI : 3.07%~3.57%) in males and 3.99% (95%CI : 3.71%~4.28%) in females. The people were in excess of standard, mostly because of the physical labor work and also secondly and thirdly because of over-exercise and heavy house-work.

3. In all genders, along with the level of physical activities rose, the ratio of fitness excellence rose. But the disqualification ratio was also high among the people who were in excess and high level physical activities.

Conclusions: Nearly half of the male and female adults were in low level of physical activities and even sedentary. With the age older, the ratio curve of recommended moderate and high level of physical activities distributed like U. There were over 10 percent of male adults whose physical activities were in excess. The ratio of excess physical activities in female adults rose along with age older. The people who met the standard of moderate and high level of physical activities bicycled, walked(both for transportation and leisure), went on with the moderate physical exercises markedly more than the people who only met the standard of low level of physical activities or inactivity. And the ratio of moderate physical exercises in people with high level of physical activities was very high. The ratio of labor work activities and over-exercise was high among the people who were in the excess of physical activities. The fitness evaluation results of the different physical activity levels showed that the ratio of fitness excellence was higher in higher level of physical activities.

Key words: Physical Activity, Adult, Features of Distribution

江蘇省成年人超重和肥胖10年（2000~2010）流行趨勢

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Prevalence and Trends of Overweight and Obesity in Jiangsu Adults, 2000~2010

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摘要

目的：分析江蘇省成年人超重和肥胖患病率在2000年至2010年間的變化和流行特點，為肥胖症預防和控制提供依據。

方法：利用2000年、2005年、2010年三次合計85362樣本的江蘇省國民體質監測資料，分析比較10年間江蘇省成年人超重率和肥胖率的變化特徵。超重和肥胖採用中國人群BMI標準評價。

結果：

1. 10年間江蘇省成年居民標化超重率和肥胖率分別增加了8.7%和43.4%，其中城鎮分別增加3%和20.8%，同期農村的超重率和肥胖率大幅度增加了13.7%和77.8%；到2010年超重率和肥胖率分別達到36.4%和11.9%，全省估計的超重人數增加了343.9萬，肥胖人數增加了281.7萬。

2. 年齡期間隊列分析，各出生隊列的超重和肥胖率在全年齡段均呈現上升趨勢，45歲前增幅較大，50歲後增幅平緩。10年間男性的肥胖率增幅高於女性。

3. 多因素logistic回歸的調整OR值為：男性1.693（女性參照），蘇中1.147和蘇北1.387（蘇南參照），城鎮1.127（農村參照），2005年度1.138和2010年度1.291（2000年參照），所有 $P < 0.001$ 。

結論：江蘇省成年居民超重率和肥胖率居呈現快速上升的趨勢，45歲以前人群、農村地區肥胖率增幅較快，是今後肥胖控制的重點群體。不同年齡、性別、

城鄉、南北地域、監測年度的超重和肥胖風險存在差異。

關鍵字：超重，肥胖，流行，風險

Abstract

Objective:To analyze the prevalence and trends of overweight and obesity in Jiangsu adults from 2000 to 2010 and to provide scientific basis for preventive measures against obesity .

Methods: The data from 2000, 2005, 2010 “national physical fitness monitoring in Jiangsu province” were used to analyse the prevalence and trends of overweight and obesity. Overweight and obesity were defined by BMI with Chinese standard for adults.

Results:

1. The overall prevalence of overweight and obesity in Jiangsu adults was increased by 8.7% and 43.4% respectively during the period of 2000-2010,among which urban adults increased by 3% and 20.8% and accordingly rural resident increased by 13.7% and 77.8%. Prevalence of overweight and obesity reached 36.4 and 11.9% in 2010 and thus acquired the increase about 3.439 million and 2.817 million of estimated overweight and obese population.
2. Age-period-cohort analysis showed that prevalence of overweight and obesity were on the rise in all birth cohort. The rapid increase displayed in those of less than 45 years old and slow increase maintained in those of over 50.
3. Adjusted odds ratio value in multivariate logistic regression model for overweight and obesity respectively reached 1.693 to men(VS women), 1.147 to middle Jiangsu and 1.387 to north Jiangsu (VS south Jiangsu), 1.127 to urban (VS rural), 1.138 to 2005 and 1.291 to 2010(VS 2000)

Conclusions :The prevalence of overweight and obesity in Jiangsu population was increased rapidly in the past decade. Rural residents and those population of less than 45 years old would be the key object for obesity control in the future.

Key words : Overweight, Obesity, Prevalence, Risk

貴州省不同海拔地區成年人參加體育鍛煉及身體機能特徵分析

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The analysis on characteristics of physical exercise and body function in different altitude regions in Guizhou

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摘要

研究目的：對貴州省不同海拔地區居民體育鍛煉及身體機能的現狀進行調查研究，旨在獲取不同自然環境下居住人群體育鍛煉和身體機能的特點，探討高原、亞高原、平原地區對居住人群體育鍛煉及身體機能的影響。

研究方法：採用“多階段分層隨機抽樣”的方法抽取研究對象進行問卷調查和測試。

研究結果表明：

1. 高原地區居民參加體育鍛煉的參與程度較高，呈現高原>亞高原>平原的特徵，但在參加體育鍛煉的品質卻表現出相反的特徵，與高原、亞高原地區相比，平原地區表現為參與頻度高、持續時間長、體育鍛煉強度適中。

2. 不同海拔地區居民在體育鍛煉場所選擇、體育鍛煉的目的和需求方面存在一定的差異，與不同海拔地區的自然環境氣候差異有一定的關係。

3. 從總體上看，平原地區人群的身體機能水平要略好於高原和亞高原地區人群。

關鍵字：體育鍛煉，身體機能，海拔，貴州

Abstract

Objective: Through the analysis of existing condition of the physical exercise and body function, the Purpose was to find out the characteristic of physical exercise and body

function in different altitude regions and studies the effects of altitude on physical exercise and body function.

Methods: Multi-stage stratified random sampling were used, and face to face investigation and testing was also used by the investigators.

Conclusion:

1. Plateau area residents to participate in physical exercise level was higher than the other two areas. On the contrary, physical exercise participate in quality was different to physical exercise level. Plain region was higher than the other in frequency and time of physical exercise participate, but physical exercise intensity is moderate.
2. There was different to the choice of exercise site and the purpose and needs of physical training in different altitude regions.
3. In general, the plain area was better than the others in body function.

Key word: physical exercise, body function, altitude, Guizhou

河南省不同經濟發展地區成年人體質狀況的比較分析

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Comparative Analysis of Physical Condition of Henan's adults in Different Economic Development Region

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摘要

選取河南省不同經濟發展地區體質監測數據，比較分析不同經濟發展地區居民體質狀況的差異，探討體質現狀存在的原因，為全民健身活動的開展提供依據。本研究採用專家訪談法、問卷調查法、文獻資料法等方法，分析發現：不同經濟發展地區居民形態、機能、素質指標都存在明顯不同，說明各地市經濟發展與體質狀況是相統一的；不同經濟發展地區居民體質狀況存在差異，綜合單項指標基本為經濟發展較好地區>一般地區>省會地區，說明經濟發展對居民的體質狀況有一定的影響；目前省會城市居民體質狀況差於其他城市，在城市發展的導向中要更加關注省會居民的體質健康狀況，為居民參加運動健身提供條件，提高健康水平。

關鍵字：經濟發展，體質狀況，成年人

Abstract

Selected areas of economic development in Henan Province physique monitoring data, it provides the basis to fitness activities by comparative analysis of physical in different economic development region and finding the reasons for the existense of physical status. In this study,we use the methods of expert interviews、literature review and survey, and analysis found that

1. The physical shape .function and fitness of residents in different economic development is significantly different,indicating the economy around the city development is in

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harmony with the physical condition;

2. Physical conditions in different areas of economic development are different, the basic indicators for the integrated economic development of the individual is better area> general area> capital region, indicating the economic development of the physical condition of the residents have a certain impact;
3. The physical condition of capital city residents is worse than other cities, in urban development-oriented people to be more concerned about the physical health of the provincial capital, providing the conditions for the residents to participate in sports and fitness and improving health.

Key word : economic development, physical condition, adults

體質綜合評價的應用分析—2000年~2010年我國國民體質變化特點

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Analysis of the application of physical fitness evaluation—China's National Physical Fitness Changes in 2000~2010

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體質綜合評價在體質測定、體質監測及其相關研究中有廣泛應用。通常依據不同的需求，選擇相適宜的方法。而在國民體質水平的動態分析時，則需要多種方法的遞進使用，從而深入分析國民體質的總體變化趨勢和指標系統內部的變化關係，瞭解掌握國民體質水平變化的特徵。通過不同體質綜合評價工具的應用，結果顯示：自2000年我國首次在全國範圍內開展全年齡段的國民體質監測以來，國民體質整體水平得到提高，主要表現為：1.身體素質水平的提高幅度大於身體形態和身體機能。2.優秀體質水平人群比例的提升幅度大於及格和良好。

一、不同體質綜合評價方法的區別

“體質綜合指數”和《體質測定標準》是體質綜合評價的兩個常用的綜合評價工具。《體質測定標準》的主要功能是個體體質水平評定和總體不同體質水平人群的分佈狀況分析。採用單指標5分制評分，以及總分4等級綜合評定，對人體體質進行評價。無論是單項評分還是綜合評級，都是將原始測量值或總分值從連續型變數轉化為等級變數，即將一個區間的不同數量水平看成了一個點，使得這個區間裏的個體數據沒有差別了。因此，其主要用途在於分類評價不同體質水平人群的變化趨勢，即把體質水平相近的個體劃為一類，這樣將人群總體的體質水平分成4類，通過每一類的達標百分比大小來觀察體質水平的變化情況。在一定程度上弱化了原始數據的有效訊息。以此對總體體質水平的狀況進行評定，會產生一定的偏差。

“體質綜合指數”是反映人口總體體質水平變化的無量綱動態相對數，主要是在每一個個體的測量數據的基礎上，通過加權處理後來反映人群總體體質水平，能較為準確的將每一個人的每一指標的訊息融合進入到人群總體的“體質綜

合指數”中。但指數不能對個體體質水平狀況進行評定，當然也無法用它來描述個體體質的變化情況。

二、“體質綜合指數”下的國民體質水平變化特點

從“體質綜合指數”分析來看，2000年至2010年的10年間，國民體質綜合指數提高了0.39個百分點。其中身體素質指數提高了0.96個百分點，約有50%年齡段的國民身體素質水平明顯提高，其中20~39歲年齡段成年人提高幅度高達4.42個百分點，幼兒的提高幅度也高達3.14個百分點。由於這兩個人群的提高幅度較大，而其他人群下降的幅度遠遠低於這兩個人群的提高幅度，使得身體素質指數有了較大幅度的提高，同時身體素質水平的提高為10年來國民體質整體水平的提高作出了貢獻。

三、《體質測定標準》下的國民體質水平變化特點

從《體質測定標準》分析來看，10年來，國民整體體質水平的提高主要表現為：不合格率從12.9%下降到11.1%，降低了1.8%，而且是前5年（2000年至2005年）就降低了1.7%，後5年只降低了0.1%。這一部分人群又有0.5%進入了合格，0.2%進入良好，1.1%則進入了優秀。4種不同體質水平人群在10年間的變化顯示：優秀體質水平人群的比例增長高於其餘及格和良好比例，表明在國民體質整體水平提高的前提下，同時還表現為優質體質水平人群的比例增長進一步加大。這一結果深化和補充了以國民體質綜合指數為精確分析工具所得出的結果。

Abstract

Physical fitness evaluation in the Physical Fitness Test, widely used in the physical monitoring and related research. Usually based on different needs, choose the appropriate method. Dynamic analysis of the level of national constitution, requiring a variety of methods progressive use of the general tendency of the national constitution and indicators system changes within the relationship, which in-depth analysis to understand the characteristics of master changes in the national constitution level. The results showed that through the application of different physical fitness assessment tool: a nationwide campaign in China since 2000 for the first time since the age of national physique monitoring, the national constitution as a whole and improve the level mainly as follows: (1) the improvement of the fitness level of larger than the body shape and body. Excellent physical fitness level of the percentage of people to enhance the rate is greater than the

pass and good.

The difference of the comprehensive evaluation of the different physical methods

“Fitness index” and “Physical Fitness Test standards of physical fitness evaluation of two commonly used evaluation tools. “Physical Fitness Test standards,” the main function is the individual assessment of fitness level and overall fitness level population distribution analysis. 5-point scale of the single index score, and out of Level 4 assessment, and evaluation of the human physique. Whether it is a single score or rating are from continuous variables into the original measured value or the total score as a rating variable, is about a range of different number of levels of look has become a point, making the individual data in this interval there is no difference. Therefore, its main purpose is the classification and evaluation of different fitness level population trends, individuals with similar physical level that is classified as a class, which will crowd the overall fitness level is divided into four categories by the size of the compliance percentage in each category to observe the physical level changes. Weakened to some extent, the original data. Assessment of this situation of overall physical fitness level, would produce a certain bias.

“Fitness index” reflects the relative number of dimensionless dynamic changes of the overall fitness level of the population, mainly on the basis of each individual measurement data, later weighted to reflect population overall fitness level, more accurate each individual each indicator, information fusion into the crowd overall “fitness index”. However, the index can not be assessed on the status of individual fitness level, of course, can not use it to describe the individual physical changes.

Second, under the “fitness index” National Physical Fitness level changes in the characteristics of

From the analysis of physical Composite Index, 10 years from 2000 to 2010, the national physical fitness index improved by 0.39 percentage points. Physical fitness index improved by 0.96 percentage points, about 50% age of national physical fitness levels were significantly increased, adults 20 to 39 age group to improve as much as 4.42 percentage point margin of increase of the children as much as 3.14 percentage points. Due to the improvement of these two populations by a big margin, the decrease from the rest of the population is far below the margin of increase of these two populations, the physical quality index to have a more substantial increase, while the fitness level increased to 10

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years raise the level of national constitution as a whole make a contribution.

Third, the “Physical Fitness Test standards under the national constitution level changes in the characteristics of

10 years from the analysis of the “Physical Fitness Test standards, improve performance of the national overall physical fitness level as follows: failure rate dropped from 12.9 percent to 11.1 percent, 1.8 percent lower, and the first five years (2000 to 2005) to 1.7%, after five years only 0.1%. This part of another 0.5% of the population entered a qualified, 0.2 percent and 1.1 percent into the outstanding. Four kinds of different physical fitness level of population change in 10 years: excellent fitness level proportion of population growth than the rest pass and a good proportion, indicating that under the premise of the improvement in the overall level of national constitution, but also the performance level of quality physical proportion of the population growth further increased. This result is to deepen and complement the results of national physical fitness index for precise analysis tools.

2010年廣西國民體質現狀分析

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The Analysis on the Physical fitness of GuangXi in 2010

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摘要

本文通過對2010年廣西監測中身體形態、機能、素質部分測試指標及其派生指標，從年齡變化趨勢和性別差異、與全國水平進行比較這個層面進行分析描述，力圖進一步反映廣西國民體質現狀。結論得出：

1. 廣西人在形態方面與全國有明顯的差異，各項形態數值低於全國水平；
2. 機能方面幼兒與全國無太大差異，成老年人中，女性的肺活量優於全國平均水平；
3. 素質方面，除男性握力素質低於全國水平外，坐位體前屈、反應時、縱跳、握力等都優於全國水平，且女性與全國差異比較明顯，明顯優於全國水平。

關鍵字：廣西，國民體質監測，形態，機能，素質

Abstract

This article were compared with the level of the Guangxi 2010 physical fitness surveillance by body shape, function, quality testing indexes and derivative indexes, from age trends and gender differences, in order to further reflect the national physique present situation in Guangxi. And here is the point, Guangxi people has apparent difference in the shape of the country, the morphology numerical lower than the national level; there are no apparent difference functional aspects of child, as old men vital capacity, women can better than

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the national average; male is lower than the national level of grip strength quality, but in the seat body anteflexion, reaction time, vertical jump, grip strength test, they are better than the national average, and women are significantly better than the national average .

Keywords: Guangxi, National Physical Fitness Surveillance, shape, Function, Quality

2000年~2010年浙江省國民體質變化趨勢研究

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Trend analysis on national physical fitness of Zhejiang province from 2000 to 2010

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摘要

為系統瞭解我省國民體質的變化趨勢及規律，推動全民健身活動的開展，促進我省經濟建設和社會發展，現將浙江省2000年、2005年、2010年國民體質監測結果進行比較分析，結果如下：

1. 2000年~2010年幼兒生長發育水準逐漸提高，身體形態持續增長，柔韌素質、靈敏素質、平衡能力逐漸提高；

2. 2000年~2010年成年人身體形態逐步往橫向發展，全身肥胖程度和中心性肥胖程度持續增長，女性成年人逐漸變矮；心血管機能有所提高，呼吸機能有所下降；力量素質、平衡能力、柔韌素質有所下降，但反應能力有所提高；同時成年甲組的力量耐力素質有所提高；

3. 2000年~2010年老年人身高逐漸變矮，身材逐漸變胖，但皮下脂肪逐漸減少；呼吸機能有所下降；柔韌素質、平衡能力有所下降，反應能力有所提高。建議在做好國民體質監測工作的同時，需要加強對成年人和老年人的體質干預，提高其體育鍛煉積極性，同時增加對這部分人群的生活方式的宣教及干預措施。

關鍵字：體質，變化趨勢，浙江

Abstract

The aim of this study was to observe the change tendency and regularity of national physical fitness in Zhejiang province and promote the sport for all as well as to improve economic and social development. This paper compared the national physical fitness results on 2000, 2005 and 2010. The results were as follows:

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1. 2000-2010, the level of preschooler's growth got a gradual increased, anthropometry grew sustain and the flexibility, agility and balance ability increased gradually.
2. 2000-2010, for adults, anthropometry level had a gradual horizontal development which showed that general obesity and central obesity continue to grow and female adults became shorter; there was an improvement in cardiovascular function while a decline in breathing function ,strength, balance, and flexibility inversely. However, strength endurance of the adults aged 20-39yr had improved.
3. 2000-2010, the seniors became shorter and fatter, but the subcutaneous fat reduced. The ventilator, flexibility and balance had decreased slightly while reaction ability improved. Therefore, while working in national physique monitoring, strengthening the physical intervention and improving their motivation of physical exercise of adults is needed.

Key words: physical fitness, trend, Zhejiang

地域特徵對體質監測結果影響的探討

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The Study on the Influences of Regional Distribution features on Physical fitness Surveillance Results

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摘要

目的：對四川省2010年體質監測數據進行分析，結合相關經濟、人口和自然環境因素分析，嘗試找出地域特徵對於體質監測結果影響的證據，為體質監測工作更好的開展提供幫助。

方法：以2010年四川省國民體質監測中3~6歲、20~59和60~69歲人群作為主要研究對象，以21個市州作為研究層面，選取體質合格率、代表性體質單指標等作為體質數據分析指標；21個市州經濟、人口和自然地理環境指標數據均來自於四川省統計局網站。計算比較體質指標數據與經濟、人口和自然地理環境指標數據之間的關係。

結果：四川省國民體質總體合格率分佈具有地區差異明顯、不同人群分佈趨勢有所不同的特點，與05年相比，幼兒體質總體合格率地域差異逐步減小，而成老年人體質總體合格率地域差異進一步增大。幼兒、成年人和老年人體質水平與經濟、人口指標相關關係不明顯，成、老年人體質水平與經緯度、海拔高度、溫度相關關係更為密切。同時，四川省居民體質水平城鄉差異明顯。四川省全省人群體質監測結果與國家監測點人群體質監測結果差異較大。

結論與建議：四川省居民體質水平地域差異明顯，不同人群集中趨勢不同，居民體質水平與自然地理環境因素關係更為密切，建議在保持原國家監測點不變的情況下，將更多的城市納入到國家監測點的選取和後續監測工作中，特別是地域較為廣闊的省份，選取原則建議以地域分佈為主，兼顧經濟發展情況。

關鍵字：四川省，體質水平，地域分佈，體質監測，監測城市

Abstract

Purpose: By analyzing the relationship between economy, natural environment and physical fitness indexes of 2010 physical fitness surveillance in Sichuan province, we hope this article could be helpful to find out the effects of regional distribution features on physical fitness surveillance results.

Methods: Took the physical fitness level passing rate and some individual single targets of the people that aged from 3-6, 20-59 and 60-69 as the objects of the study, which originated from the Third National Physical Fitness Surveillance in Sichuan province.

Results: The characters of the region distribution about the Sichuan citizens' physical fitness level passing rate such as significant regional difference and different age group's physical fitness level having different distribution trends were found. The physical fitness of children, adults and old people had no significant relationship with the economic and demographic indicators. There were significant relationships between the physical fitness of adults, old people and latitude, longitude, altitude and temperature. Obvious differences of physical fitness level between urban and rural were found. There was a significant difference between the physical fitness surveillance result of 21 cities in Sichuan and 3 National monitoring cities.

Conclusions and suggestions: According to the analysis results, we suggested that more cities needed to be integrated into the national monitoring city during the next National Physical Fitness Surveillance.

Keywords: Sichuan Province, physical fitness, region distribution, national monitoring city

2000年~2010年遼寧省成年人體質狀況的動態研究

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The physical condition of the dynamics of adult from 2000 to 2010 of Liaoning Province

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摘要

成年期是個體一生中最成熟、精力最充沛、工作能力最強的階段，處在這個時期的社會人群是整個社會的中堅力量。本文擬通過2000年至2010年國民體質的縱向對比研究，瞭解這10年遼寧省成年人體質的變化情況，並通過對達成率的對比，觀察成年人的體質達成率的總體變化情況。希望通過此論文的研究，對我省開展成年人國民體質研究有所幫助和借鑒。

研究方法：本文採用文獻資料法、體質檢測法及數理統計法對瀋陽、丹東及朝陽5039名成年人的體質（身體形態、身體素質、身體機能）指標進行測試。

研究結果及分析與討論：

1. 2000—2010年遼寧省三次測試的縱向比較：

身高男女三次測試變化不大。

男子2000年體重高於2010年和2005年；女子2010年體重高於05年和00年。

Bmi三次測試相比，男子20-39歲組2010年均高於其他兩次測試，46歲開始差距減小。女子大部分年齡段是2000年最高，10年次之，2005年最低。

肺活量三次測試的年齡趨勢均是隨年齡的增加而下降，男女05年與10年變化趨勢相同。00年顯著高於05年、10年。

體前屈00年高於05年，05年高於10年。男子隨年齡增長下降的趨勢。女子與男子趨勢相同。男女相比，男子下降的趨勢更為明顯。05年、10年的數值與00年相比，差距較大，

握力總的趨勢是隨年齡的增加而逐年降低。男女均是10年最低，05年次之，00年最高。

背力男子20-25歲、36-40歲10年最高；26-30歲00年最高。在各年齡段，女子00年最高，05年次之，10年最低。

縱跳男子05年值最高，10年次之，00年最低。女子除30-40歲組外，男子也呈現相同的規律。

反應時從數值上看在各年齡段10年均高於05年，10年與05年的指標顯著高於00年。

2. 合格率的比較分析：

2.1. 成年甲組：成年甲組2010年國家標準是88.4%，我省標準為79.3%，遠低於全國標準。

三次測試優秀率05年最高，10年次之，00年最低。良好率00年最高，05年次之，10年最低。及格率10年最高，05年次之，00年最低。總合格率05年最高，10年次之，00年最低。

2.2. 成年乙組：成年乙組2010年全國標準是87.6%，我省為79.8%，遠低於國家標準。

從表2看，三次測試縱向比較：優秀率、良好率00年最高，05年次之，10年最低。及格率10年最高，05年次之，00年最低。總合格率00年最高，05年次之，10年最低。

結論：2000—2010年三次測試身高變化不大。我省三次測試體重男子2000年最高，2005年於010年相差不大。女子2010年最高。Bmi男子2010年最高；女子2000年最高。我省三次測試男女肺活量、體前屈和握力均有所下降，2000年最高，2010年最低。三次測試背力有高有低。男女縱跳2005年最高，2010年次之，2000年最低。男女反應時逐年提高，2010年最高，2000年最低。

關鍵字：遼寧省，成年人，形態指標，機能，素質，合格率

Abstract

Introduction: Adulthood of an individual life is the most mature and energetic stage, it is also the strongest ability to work the stage. Social groups in this period is the backbone of society as a whole. This article investigates about 10 years adult physical changes of constitution of Liaoning Province from 2000 to 2010, through three Longitudinal comparative studies of physical comparison of compliance rates of Liaoning province adult constitution, we observed the adults overall physical changes. Through this thesis research, we hope to learn adult constitution of Liaoning province.

Research Methods: Using methods of literature, physical detection and mathematical statistics, this article tested 5039 adult of Shenyang, Dandong and Chaoyang adult body (body shape, physical fitness, physical function).

Result and analysis:

1. The longitudinal comparative analysis of individual indexes of three tests from 2000 to 2010 of Liaoning Province

The height of men and women changed very little in three tests.

The highest of weight of male is in 2000 and of female is in 2010 of three tests.

The highest Male Bmi in the age of 20-39 years old is in 2010 of the three tests, and the gap is reduced in the age of 46 years old group. The highest Female Bmi is in 2000, the middle female Bmi is in 2010, the lowest is in 2005.

Age trends in the three test vitlcap are decreased with increasing age, the vitlcap of men and women in 2005 and in 2010 are the same, and it was significantly higher in 2000 than in 2005 and in 2010.

Bendfro in 2000 was higher than it in 2005, and it was also higher in 2005 than it in 2010. Men declined with increasing age. Women and men have the same trend. This index decreased more obviously. The index in 2000 has a large gap compared with it in 2005 and in 2010.

The trend of grip was decreased with the increase of age. Men and women in 2010 are

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the lowest, and it is in the middle in 2005, it is the heighest in 2000.

Backcour of 20-25 and 36-40 year-old man were the highest. This index in 26-30 years old was the heighest.

In all ages, women in 2000 is the highest , and it is in the middle in 2005, it is the lowest in 2010.

Male portrait in 2005 is the heighest, and it is in the middle in 2010,it is the lowest in 2000. The index of female has the same trend in the three tests In addition to women 30-40 years old group.

Reaction from the numerical point of view of all ages in 2010 was heighest among three testes.The index in 2010 and 2005 were obviously heigher than it in 2000.

2. Comparative analysis of the passing rate

2.1 Adult A Group Comparative analysis of passing rate

National standard of adult Group A in 2010 is 88.4%, our province standard is 79.3%, far below the national standard.

The test of Excellent rate of our province in 2005 is the heighest, the test in 2010 is in the middle, the excellent in 2000is the lowest. Good rate in 2000 is the heighest, the good rate in2005 is in the middle, the good rate in 2000 is the lowest.

The highest pass rate of our province is in 2010, the middle of pass rate is in 2005,the lowest pass rate of our province is in 2000.

The highest overall pass rate of our province is in 2005, the middle of pass rate of our province is in 2010, the lowest pass rate of it is in 2000.

2.2 Adult B Group Comparative analysis of passing rate

2010 National standards for adult B was 87.6%, our province pass rate was 79.8% and it is far below the national standard.

three vertical comparison test (from table 2)

Excellent rate and good rate are all in 2000, and it is in the middle in 2005, it is the lowest in 2000. The pass rate of our province is in 2010, it is in the middle in 2005,

and it is the lowest in 2000.

The highest overall pass rate is in 2000, the middle of pass rate is in 2005, the lowest pass rate is in 2010.

Conclusion: The height of three longitudinal test is not change too much both men and women. The highest of Male weight is in 2000, and it is not change too much in 2005 and 2010. The highest weight of female is in 2010. The highest Bmi of male is in 2010. The highest Bmi of female is in 2000. Vitalcap、bendfro and grip all declined. This index is the highest in 2000, it is the lowest in 2010. Backcour of three tests are not change too much. Portrait of men and wemon are the highest in 2005, it is in the middle in 2010, it is the lowest in 2000. The response both men and women is increasing, and it is the highest in 2010, it is the lowest in 2000.

上海市民體質變化特點和結構分析

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Changes of Overall Situation and Constitutive Property of Physical Fitness in Shanghai Citizens

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摘要

研究目的：針對2010年上海市國民體質監測的主要結果，就2005~2010年上海市民體質的變化特點，以及體質總體概況的構成展開討論，以期準確把握市民體質的變化，推動全民健身運動的科學發展。

方法：2005年、2010年國民體質監測幼兒、成年人、老年人監測樣本為研究對象。採用數理統計法，對各項指標進行統計和分組比較。

結果：2010年國民體質監測結果顯示，上海市民總體體質達成率較2005年提升，但優秀率、良好率卻下降。分組統計顯示，幼兒、老年人體質較2005年有提高，其中老年人提高幅度較大，體質達成率已居各年齡人群之首；郊區農村人群體質水準有所提高，中心城區成年人優秀率下降，體質的“城鄉差別”縮小。

對各項指標得分的統計並與2005年監測結果比較發現，中心城區成年人體質指標出現了較大面積、較大幅度的成績下滑，包括如因體重增加而致的身高標準體重得分下降，以及握力、縱跳等多項素質指標水平下降等。相對而言，農村郊區成年人許多指標不降或反升，如肺活量、閉眼單腳站立、縱跳等。由於中心城區人群體質水平原本較高，該人群體質下降直接影響了總體優秀率和良好率，而兩類人群體質水平的相向變化客觀上擴大了總體合格率，並使體質水準的“城鄉差別”縮小。該現象實際上反映了本市不同區域人群體質水平出現了一些結構性變化。

文章分析了產生這種現象的影響因素，人口格局變化，包括中心城區人口向

郊區遷移和外來人口導入，以及城鄉體育事業發展不平衡現象的改善，可能是其主要原因。

結論：2010年上海市市民體質雖總體上有所提高，但也出現了一些結構性變化，即城鄉差別縮小，老年人體質水平提高，應重視人口格局變化對人群體質的影響。

關鍵字：國民體質，城鄉差別

Abstract

Objective: Based on the results from the 2010 National Physical Fitness Surveillance in Shanghai, our research analyzed the changes of physical fitness level and constitutive property of Shanghai citizens from 2005 to 2010. Aim is grasp the overall situation of Shanghai citizen's fitness and promote sport for all.

Methods: Our research did statistics analysis on the children, adults and elderly people from the samples of National Physical Fitness Surveillance in Shanghai in 2005 and 2010.

Results: The result showed that, comparing to the results of 2005, the fitness qualified rate increased, while the excellence ratio declined. Group statistics showed that the physical fitness of children and elder people has been better than 2005, and the fitness qualified rate of elder people was the largest. The physical fitness of suburbs population has also been better, while the physical fitness of downtown population declined. The gap of physical fitness level between suburbs and downtown people has narrowed. The statistics of the score of physical fitness item and the comparison with the result of 2005 showed that, the score of adults in downtown areas declined largely and extensively, including the score of weight for height declining due to the obesity, and handgrip strength, vertical jump and so on. Comparatively, the score of adults in suburbs areas remains unchanged or even increased, such as vital capacity, stork standing with eyes closed, vertical jump and so on. As the downtown population had a higher physical fitness level, it is resulting the overall rate of excellent and good decline due to their physical fitness level falling. It also increased the overall fitness qualified rate and reduced the gap objectively as a result of opposite changes in the physical fitness level of two populations. Overall, this indicating that there has been changed in physical fitness constitutive of the population.

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The research then analyzed the influencing factors of the above-mentioned results. The main reasons could be the changes of population distribution, which including many of urban population moved to suburban area and the large population of new comers moved into Shanghai, and the improvement of unbalanced physical activity development between urban and rural area.

Conclusions: The fitness of Shanghai citizens improved in 2010. However, there are still some constitutive property changes, including the narrowed gap between urban and rural people, and the improved fitness levels of elderly people. It should be noticed that the citizens' fitness might be influenced as the population distribution changes.

KeyWords: physical fitness, gap of urban and rural people

海南省國民體質狀況及變化規律研究

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Study on change law of Status National Physical Fitness in Hainan Province

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摘要

研究目的：探討海南不同人群體質的縱向變化特點，分析其中存在的規律，科學指導海南人進行體育健身；對今後長期動態地觀察海南人的體質狀況變化，對群眾體育政策、法規的制定和實施有積極的作用和參考價值。旨在準確把握海南省國民體質狀況為海南國際旅遊島建設提供客觀數據支撐。

研究方法：本文以2000年、2005年和2010年海南國民體質監測數據為研究對象，對海南省幼兒、成年人和老年人的體質現狀及體育鍛煉情況進行定量統計和定性分析。主要研究方法為文獻資料法、邏輯分析法和數理統計法。

研究結果：

1. 10年來，幼兒身體形態方面，如身高、體重、坐高和胸圍呈上升趨勢，且表現出非常顯著性差異（ $P < 0.01$ ）。克托萊指數數據顯示：身體生長發育勻稱度有較大改善，各項指標男幼兒好於女幼兒。2010年，幼兒各年齡組的身高、體重、坐高等形態指標平均數比2005年均有明顯增長。

2. 10年來，海南省成年男子的身高、體重和克托萊指數上升，皮褶厚度顯著

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下降；成年人肥胖率有所下降，肥胖增速率低於于全國水準，這與全國成年人體型向粗壯型發展的趨勢截然相反。與2005年比較，反映成年人身體機能的各項指標都有不同幅度的提高。身體素質方面，成年人上肢及軀幹力量下降，反應速度有所加強，平衡能力大幅度提高。

3. 10年來，老年人身體形態指標大多數趨於穩定，經T檢驗，差異無統計學意義；身體機能指標，脈搏呈現出先減後增的變化態勢，舒張壓則呈現出持續上升的變化特徵。身體素質方面，選擇反應時平均數顯著下降，除力量水準有所降低外，素質指標整體趨於穩定。

4. 2010年海南省國民體質綜合指數為102.94，高於全國平均水平，位居第七位。海南省國民體質優秀率和良好率持續提高，不合格率顯著下降。

結論：

1. 海南省國民體質狀況良好，且呈現出良性發展態勢；集中體現在國民體質綜合指數與國民體質達成率的變化上。

2. 海南省國民體質呈良性發展，其原因與島民生活方式的改變和健康意識的增強，以及本省體育健身環境的改善密切相關。這充分表明我省全力推進國際旅遊島建設，積極開展全民健身活動成效顯著。

3. 海南省幼兒身體發育水平持續增長，體質水準有所提高，多數指標高於2005年測試結果。

4. 成年人和老年人肥胖率有所下降，肥胖率增速低於于全國水平；心肺機能水平有所提高。應當引起高度重視的是成年人的力量指標呈下降趨勢，集中體現在握力和背力指標上。

5. 幼兒和成年人體質的城鄉差異呈減小趨勢，其中，體質優秀率和達成率城鎮幼兒及成年人均高於農村幼兒和成年人，但是此差異比2005年有明顯減小。

關鍵字：國民體質，狀況，規律，研究，國際旅遊島，海南省

Abstract

Research Purposes: In order to discuss physical characteristics on the longitudinal changes in different populations in Hainan. To analyse the existing law and guide

Scientifically for Hainan people physical fitness. It is positive and valuable in the mass sports policy, laws and regulations for the design and implementation. Through mastering the situation of national physical fitness, we provide objective data support for Hainan international tourism island.

Research Methods: Based on the monitoring data on Hainan national physical fitness in 2000, 2005 and 2010. We analyse quantitatively and qualitatively the health status and physical exercise on children, adults, the elderly in Hainan province. The main research methods including literature data method, the logic analysis method and mathematical statistics method.

Research Results:

1. The body shape of children shows a very significant difference ($P < 0.01$) such as height, weight and sitting height in 10 years. Quetelet index data show: the body growth degree of uniformity is improved, male children is better than female children in the indicators. The height, weight, sit higher morphological index average in 2010 increase more than in 2005 in each age group 's children.
2. The men 's height, body weight and Quetelet index rose in 10 years, The skinfold thickness was significantly decreased; The adult obesity rate has decreased; The increase rate of obesity is lower than in national level, It is opposite to the adults body to become strong trend. With compared 2005, the adult physical function indexes increase to different extents. The adult upper limbs and trunk strength decrease, the reaction rate and the balance capacity increase in 10 years.
3. The body shape index of elderly is stable, through T test, the difference was not significant; In physical function index, the pulse presents decreased at first and then increased changes, The blood pressure show a rising characteristics. In Physical quality, the choice reaction time average power levels decrease significantly. The overall index is stable in addition to quality.
4. The national physical fitness index is 102.94, The excellent rate and good rates continued to increase, the unqualified rate drops significantly in 2010 in Hainan Province.

Research conclusion:

1. The national constitution is in good condition and presents a benign development state in Hainan Province.
2. The lifestyle changes of islanders and the enhancement of health consciousness, as well as the sports fitness environment is closely related. This fully demonstrates: The people carry out the national fitness activity to promote the construction of international tourism island.
3. The level of physical development of infants continue to grow in Hainan province, The most index is higher than the index in 2005.
4. The adults, the elderly obesity rate has decreased, the rate of obesity rate is lower than national level; heart and lung function improve.
5. The differences of childhood and adult physical between urban and rural areas show a trend of decrease, The physique of excellent and compliance rate of children and adults in urban are higher than in rural, but this difference is appreciably smaller than in 2005.

Keywords: National physical fitness, status and trend, International tourism island

北京市部分職業人群體質水平的變化趨勢

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The Variation Trend of Physique Constitution in Different Professional Groups in Beijing

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摘要

為了更為有效的瞭解北京市不同職業人群在過去5年間，體質水平的變化狀況，在充分考慮成年人群構成的複雜性和特殊性的基礎上，以2010年國民體質檢測數據為依託，重點探討北京市不同職業人群體質水平變化趨勢的變化。選擇2005年、2010年20~59歲不同職業人群為研究對象，以身體形態、機能特徵、素質特徵單指標為研究內容，重點比較2010年與2005年各年齡段的體質變化水平，分析2010年北京市不同職業人群的體質變化規律，力爭多角度、多層次的分析和探討引發成年人體質水平發生變化的因素，為研究北京市部分職業人群的體質水平提供一定的理論依據。

通過研究得出：在五類人群中，身體形態都有明顯的變化身高除了“負責人”這類人群變化比較大外，其他的職業中都沒有太明顯的差異。在身體形態指標中變化最大的為上臂皮褶、腹部皮褶。它們幾乎都要大於2005年同期的平均值。

在機能變化方面，2010年各人群部分年齡段肺活量的平均值要小於2005年同期的水平，但是臺階試驗中女性與2005年同年齡段的人群幾乎持平，男性略微的要高。

在素質變化方面，部分職業人群的柔韌性、背力、縱跳、握力、反應時、平衡性相當一部分年齡組要小於2005年同年齡組的平均水平。

關鍵字：職業，體質，變化

Abstract

This paper aims at getting to know the variation of physique level in different professional people's in Beijing more efficiently. After adequate consideration of the complexity and particularity among different group people, the paper focus on the variation trend of physique level in different professional people in Beijing at the basis of the 2010 National Physical Test data. The research chose different professional people at age of 20-59 in 2010 and 2005 as research subjects. The research contents include body's figure、function、and quality. The comparison of variation in the constitution of people at all ages is emphasized. By analyzing and exploring the laws of variation of constitution in different professional people, this research tends to find out the causes of these variation form different views and levels. In this way, it can provide the theoretical basis for the research of part of the professional people's constitution level.

Results: Among the different five groups, all the groups have obvious change in body form. As to height, all the groups have no obvious change expect for the principle. Among all the indicators of body form, the levels of skin fold in upper limbs and abdomen change most. They are almost higher than the average value in 2005.

At the aspect of variation in physical function, the average value of part of groups' vital capacity in 2010 is lower than that in 2005. In the step test, females keep the same level as that in 2005 while males are a little higher than that of 2005.

At the aspect of variation in physical quality, the levels of flexibility, back strength, vertical jump, grip strength, reaction time and balance of quite a lot people in different ages are lower than average level of the same age in 2005.

KeyWords: Professions, Constitution, Variation

國民體質監測質量控制系統的研究與開發

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摘要

2010年國家體育總局等10各部委在全國31個省（區、市）開展了第三次國民體質監測，在本次工作中全國31個省（區、市）共成立了200余支測試隊伍、8000多名工作人員參加了工作，共測試了26.02萬樣本人群。國家國民體質監測中心委託奧美之路（北京）技術顧問有限公司開發的“國民體質監測質量控制系統”對保證監測工作的平穩推進發揮了重要作用。本文重點分析了“國民體質監測質量控制系統”的理論基礎、系統需求分析、系統設計與實現和關鍵性技術。本系統基本適應了2010年國民體質監測工作需要，目前該系統已經投入使用，經實踐證明，該系統在實際應用中能夠較好地完成基於網路的質量控制工作，降低了管理成本、提高了辦公工作效率。

關鍵字：ASP.NET，B/S模式，質量控制，體質監測，線上平臺，管理

Abstract

In 2010, General Administration of Sport of China and other 9 ministries and commissions implemented the third national physique monitoring in 31 provinces (autonomous regions, municipalities). In the work of this monitoring, 200 testing teams were founded and more than 8000 testers participated in, 260 thousand and 2 hundred samples were tested totally. “National Physique Monitoring Quality Control System” which was entrusted to ACMEWAY (Beijing) technique & consultant Co., Ltd to develop by National Physique Monitoring Center played an important role in ensuring smooth implementation of the monitoring. The article analyzed the theoretical basis, system requirement analysis,

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system design and implementation and key techniques of “National Physique Monitoring Quality Control System”. The system adapted the needs of national physique monitoring basically and had been put into use. It was verified through practice that the system could complete the quality control based on network, reduce management cost and raise work efficiency during application.

Keyword: ASP.NET, B/S, Quality control, online platform, management

2010武漢成年人體質狀況及BMI指數分析

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The Analysis of Physique and BMI on 2010 Wuhan Adult Group

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摘要

研究目的：分析2010武漢居民體質現狀與體重類型。

研究方法：研究對象為2010年武漢市國民體質監測成年組（20-59歲）人群，總樣本量為1660人，其中男823人、女837人。

選取“體質總評”和BMI為研究指標。為了簡單明瞭，本文將優秀、良好、合格合併稱為“體質達成率”進行了分析。體重分型方法：BMI < 18.5為“體重過輕”， $18.5 \leq \text{BMI} \leq 24.0$ 為“體重正常”， $24.0 \leq \text{BMI} < 28$ 為“超重”，BMI ≥ 28.0 為肥胖。

研究結果：從總體情況來看，共1452人達標，達成率為87.5%，其中達到合格的799人，占48.1%，達良好的389人，占23.4%，達優秀的有264人，占15.9%，不合格者208人，的占12.5%。城鎮非體力勞動者體質達成率為94%與城鎮體力勞動者的93.1%差異不大（ $P > 0.05$ ），與鄉村的75.5%具有顯著差異（ $P < 0.05$ ）。城鎮非體力勞動者中體質良好者占27.6%，優秀者占23.3%，相比城鎮體力勞動者的體質良好比例（27.9%）及優秀比例（18.5%）無明顯差異（ $P > 0.05$ ），與鄉村的優秀（6.1%）及良好比例（14.8%）則具有顯著性差異

($P<0.05$)。甲組體質達成率85.9%，顯著低於乙組的89.9% ($P<0.05$)。

鄉村男性BMI明顯低於城鎮體力勞動者中的男性 ($P<0.05$)，而鄉村女性BMI則明顯高於城鎮體力勞動者中的女性 ($P<0.05$)；若把城鎮體力勞動者與非體力勞動者統合為城鎮人群與鄉村人群相比較，可以發現鄉村男性BMI顯著低於城鎮男性 ($P<0.05$)，而女性則相反：城鎮女性體重顯著低於鄉村女性 ($P<0.05$)。從體重類型看，有85人體重過輕，占5.1%；997人體重正常，占60.1%；463人超重，占27.9%；115人肥胖，占6.9%。

結論：

1. 總體上，達到合格等級的占48%，良好等級的占23%，優秀等級的占16%，不合格的占13%，達成率為87%。
2. 體質達成率城鎮高於鄉村、成年乙組高於成年甲組，但是本文沒有顯示性別差異。
3. 體重過重（超重加肥胖）有578人，約占總人數的35%。
4. 城鎮男性BMI顯著>鄉村男性、城鎮女性BMI顯著<鄉村女性，年齡越大BMI指數越高。

關鍵字：成年人，體質，BMI

Abstract

Research Object: To analyze current state and body mass of physique on Wuhan's adult residents.

Research Methods: This paper's research samples are based on 2010 Wuhan adult group's (age 20-59) physique monitoring data. The sum of samples is 1660, including 823 males and 837 females.

“General fitness assessment” and BMI have been taken as main research index and basis in this paper. To be more simplified, physical evaluation of “excellent”, “good” and “average” have all been combined as “physical qualified rate”. Fitness classification: $BMI<18.5$ as “underweight”, $18.5\leq BMI\leq 24.0$ as “normal”, $24.0\leq BMI<28$ as “overweight”, $BMI\geq 28.0$ as “obese”.

Results: In general, 1,452 people have been rated as “physical qualified”, including 799 as “average” (48.1%), 389 as “good” (23.4%), 264 as “excellent” (15.9%), while 208 (12.5%) people are “unqualified”. Urban non-manual workers’ physical qualified rate is 94%, comparing to 93.1% of urban manual workers’, with no significant difference ($P>0.05$); while the difference is significant in compare with rural residents’ 75.5% ($P<0.05$). The proportion of “good” and “excellent” in urban non-manual workers are respectively 27.6% and 23.3% compare with 27.9% and 18.5% in urban manual workers, with no significant difference ($P>0.05$) between them; while the difference appears significantly in compare with rural residents’ portion of “good” (14.8%) and “excellent”(6.1%) ($P<0.05$). The qualified rate of Group A(age 20-39) is 85.9% which is significantly lower than Group B’s (40-59) 89.9% ($P<0.05$).

Rural males’ BMI is apparently lower than urban manual males’ ($P<0.05$), while rural females’ is higher than urban manual females’ ($P<0.05$). To integrate urban “non-manual” and “manual workers” into “urban residents”, by comparing physical differences between “urban residents” and “rural residents”, this study reveals that rural males’ BMI is significantly lower than urban males’($P<0.05$), which is a result practically opposes to the comparison between these two sides’ females ($P<0.05$).

Among those people, 85 of them have been classified as “underweight” (5.1%), 997 as “normal” (60.1%), 463 as “overweight” (27.9%) and 115 as “obese” (6.9%).

Conclusions:

1. Generally, 1,452 people have been rated as “physical qualified”, including 799 as “average” (48.1%), 389 as “good” (23.4%), 264 as “excellent” (15.9%), while 208 (12.5%) people are “unqualified”.
2. According to the results of physical qualified rate, urban residents’ is higher than rural residents’; Group B is higher than Group A.
3. Almost 35% of the people, 578 overall, are counted as “overweight” or “obese”.
4. Urban male’s BMI > rural male’s BMI; urban female’s BMI < rural female’s BMI. People’s BMI ascend along with their age grow.

Keywords: Adult, Physique, BMI

江西省幼兒體質監數據動態分析

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**The Dynamic Analysis on the Body Constitution Monitoring data for
the infants in Jiangxi Province**

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摘要

為了全面瞭解和掌握江西省幼兒健康現狀和體質變化規律，科學的對國民體質監測數據進行科學的動態分析，本文對2000年到2010年10來的監測數據和2007的群眾體育調查數據進行分析，研究結果將對政府開展群眾體育工作決策，提高我省幼兒體質與健康，促進我國社會的經濟與社會進步和國家的可持續發展都有著積極的意義。

關鍵字：江西省，國民體質監測，幼兒組，動態分析

Abstract

In order to find out and comprehend the variable rule of healthiness and body constitute for infants in Jiangxi province, and make scientific analysis on the civil constitution monitoring data, the ten-years data for body constitution monitoring since 2000 to 2010 and investigated data of popular physical education in 2007 are analyzed in this study. The study results are positive for government decision-making on popular physical education development; and for elevation in infant's body constitution and healthiness; as well as for promotion in economic and social progress of our country and national persistence development.

Keywords: Jiangxi province, civil constitution monitoring, infants, dynamic analysis

成都市市民體質健康測評與促進系統開發

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Development of the physical monitoring and promoting system for the city of Chengdu

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摘要

隨著社會的發展和進步，“以人為本”業已成為了全社會的共識，而“以人為本”的最基本條件是健康，在體育領域的具體體現就是體質。借助第三次全國國民體質監測調研的時機，成都市體育局、成都市國民體質監測中心和四川大學公眾健康與社會發展研究所共同組成專案組，在“成都市國民體質監測工作領導小組辦公室”的具體領導下制定並實施了《成都市市民體質健康測評與促進》專案。主要目的：本文主要介紹此系統的開發框架，開發流程，關鍵頁面，以及此系統輸出的健身指導方案檔等訊息。研究方法：本系統的開發和設計採用了“瀑布模式”，包括了系統分析，軟體需求分析、軟體設計、軟體實施、軟體測試與系統維護六個階段。結果：我們成功完成了成都市體育局的任務，順利開發出了成都市市民體質健康測評與促進系統。討論：後續還需要不斷完善宣傳系統，讓更多市民瞭解此系統，使用本系統，並在使用的同時不斷回饋意見，為我們不斷更新此系統，增強其功能，提高其用戶體驗提供依據。

關鍵字：以人為本，體質監測，運動成都，全民健身

Abstract

With the social development and progress, “people-oriented” policy has become a society-wide consensus, and health is the most basic conditions of “people-oriented”

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policy. With the third national survey to monitor the timing of the national constitution, Chengdu Sports Bureau, Chengdu people's physique monitoring center and Sichuan University, Institute of Public Health and Social Development together constitute the project team, in the "Chengdu people's physique monitoring work leading group office" specifically formulated and implemented under the leadership of "the people of Chengdu and the promotion of physical health assessment" project. The main purpose of this paper is to describe the system development frame work, the development process, most important web pages, and the guidance documents for fitness program and other information output from the system. Methods: The development and design of the system adopted a "waterfall model", including systems analysis, software requirements analysis, software design, software implementation, software testing and system maintenance six stages. Results: We successfully completed the task of Chengdu Sports Bureau, Chengdu successfully developed a physical health evaluation and promotion of the public system. Discussion: it is our duty to constantly improve the information system to allow more people to understand this system, to use this system, and while using, give us feedback so that we can continue to update this system to enhance its capabilities to improve its user experience.

Keywords: People-oriented, Physical monitoring, Exercise Chengdu, Fitness

寧夏回族自治區國民體質現狀及變化特徵研究

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The Status Quo and the Changing Characteristics of National Physique of Ningxia Hui Autonomous Region

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摘要

本文依據2005至2010年寧夏國民體質監測報告中有關身體形態、機能、素質等指標（涵蓋派生指標），對寧夏國民體育現狀及變化特徵進行分析。研究結果表明：（1）寧夏居民身體形態總體水平提高，但超重人群增加；（2）寧夏居民身體機能總體水平提高，但女性中老年人機能水平下降；同時居民身體素質指標有所降低；（3）居民體質合格率、良好率以及優秀率比例增加

關鍵字：寧夏，國民體質監測報告，形態，機能，素質

Abstract

The status quo and the changing characteristics were presented by analyzing relevant index, including body shape, body function, and fitness according to Ningxia Autonomous Region National Physique Monitoring Report from 2005 to 2010. The results showed that: (1) the level of body shape of Ningxia residents increased, but the number of obesity people increased; (2) the level of body function of Ningxia residents increased, except middle-aged female people; (3) the pass rate, the good rate, and the excellent rate of fitness level of the residents increased.

Keywords: NingXia Hui Autonomous Region, National Physique Monitoring Report; body shape, body function; fitness well

山東省濟南市3~6歲幼兒身體形態特徵與發展規律研究**劉瑩瑩****山東省體育科學研究中心，濟南 250001****Research of the physical characteristics and regular development of the 3~6 years old children lived in jinan Shandong province****Yingying Liu****摘要**

運用調查和數理統計法對山東省濟南市720名3-6歲幼兒的身高、體重、坐高、胸圍皮褶厚度及相關派生指標進行分析，以期揭示濟南市幼兒身體形態的特徵及發展規律。結果表明：濟南市3-6歲幼兒身體形態處於穩定增長時期，但性別間、年齡間增速不同，呈現出一定的規律；不同性別間幼兒身體形態存在差異；在骨骼、肌肉、內臟器官及身體的充實度、密度的生長發育上，男幼兒優於女幼兒。較2005年，身體形態指標總體呈上升趨勢，身體生長發育勻稱度有較大的改善。男幼兒的各項指標好於女幼兒。

關鍵字：濟南，幼兒，身體形態，發展規律**Abstract**

Analysis the height, weight, chest circumference, sitting height, bust, skin fold thickness and related derivative indexes of the 3-6 years old children who lived in jinan Shandong province, in order to reveal the physical characteristics and development of the children who lived in jinan. The results show that 3-6 children's body shape in a stable growth period, but the growth rate is different between the sex and age, showing a certain degree of regularity; there have different faces between the sex, the boy are better than the girl in the growth of skeletal, muscle, internal organs and body filling degree and density. Compared with 2005, the body shape index showed rising, physical growth and symmetry is improved. In all indicators the boy is better than the girl.

廣東省不同經濟發展區域成年人體質現狀研究

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Research on National Physical Fitness in Different Economic Regions of Guangdong Province

摘要

1. 研究對象與方法

1.1 研究對象：本研究以2010年廣東省國民體質監測數據為基礎，根據經濟指標將廣東省21個地市劃分為3個經濟發展區域，對不同經濟發展區域成年人（20~59歲）體質現狀進行分析。

1.2 研究方法：

1.2.1 文獻資料法：查閱同類研究文獻，對相關的文獻資料進行收集和整理，瞭解體質研究現狀，同時瞭解廣東省經濟發展狀況。

1.2.2 測試法：根據國家體育總局頒佈的《國民體質測定標準手冊》對20~59歲的廣東省城鄉居民進行身體形態、身體機能和身體素質等方面的測試。

1.2.3 數理統計法：收集、整理調查所獲得數據，採用SPSS11.5套裝軟體進行統計分析。

2. 研究結果：

2.1 廣東省不同經濟發展區域人群的體質水平存在明顯的差異，從體質綜合評價來看，體質達成率為一級區域>二級區域>三級區域。

2.2 分析鄉村、城市體力勞動者和城市非體力勞動者體質水平發現，廣東省不同經濟發展區域三類人群體質水平均呈現出城市非體力勞動者好於城市體力勞動者，城市體力勞動者好於鄉村，但隨著經濟水準的提高，三類人群的體質差異逐漸減小。

2.3 一級區域和二級區域人群體質水準各年齡組間的差異隨年齡增長變化不

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大，平均差值為4.4個百分點，三級區域與其他兩個經濟發展區域間的差異呈現出隨年齡變化而變化，其中35~39歲年齡組人群的區域差異最小，在45~59歲年齡組區域差異最大，平均為8個百分點。

2.4 經濟發展水平對身體形態、身體機能和身體素質指標均有不同程度的影響，但影響的方式和力度存在差異。

2.5 不同經濟發展區域各職業類別人群的體質水平存在明顯的差異，各職業類別人群的體質達成率均為一級區域>二級區域>三級區域；各經濟發展區域均為專業技術人員的體質狀況最好，而農、林、牧、漁、水利生產人員的體質狀況最差。

關鍵字：廣東省，經濟區域，體質

Abstract

Based on database of Guangdong physical fitness surveillance in 2010, Comparative analysis had been carried out between different economic regions of Guangdong province in this paper. Objects had been divided into 3 groups according to different economic development. The results indicate that the level of regional physical fitness was related to economic development, and the relevance between regional physical fitness and economic development was affected by many factors such as living environment, sex and profession.

Keyword: Guangdong province, Physical Fitness, economic regions

北京市農民體質現狀與變化特徵研究

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Research the change characteristics of Beijing farmer's physical fitness status

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摘要

研究目的：對北京市2010年農民體質狀況進行橫向和縱向比較和分析，試圖找出農民體質的變化特徵及發展規律，為農民體質干預提供依據。

研究方法：體質測試法、比較法。採用國家規定的體質測試器材、測試方法和測試程式，於2010年對北京市抽樣的農民進行現場測試並用SPSS15對數據進行數理統計，運用比較法對農民的體質指標進行對比。

研究結果與結論：

1. 北京市農民體質隨年齡的變化特點：

1.1. 男性農民BMI、腰圍和腰臀比隨著年齡的增長呈拋物線形的變化趨勢，最高點在40~44歲；女性農民BMI隨年齡的增長呈現拋物線的發展趨勢，最高點在45~49歲，而腰圍和腰臀比則隨著年齡的增長持續增長。

1.2. 男性和女性農民肺活量隨著年齡的增長，呈逐漸下降趨勢。

1.3. 握力隨年齡的增長呈拋物線形變化趨勢，男女都在35~39歲達到最大值；柔韌性、平衡能力、下肢爆發力和力量耐力都隨年齡的增長呈下降趨勢。

2. 農民10年來體質變化情況：

2.1. 10年來，男性農民BMI、腰圍和女性的腰圍呈現先小幅下降後大幅上升的“U”型變化趨勢，而女性BMI沒有顯著變化。

2.2. 10年來，男性肺活量持續下降，女性的肺活量呈“L”型變化。

2.3. 身體素質表現在：男性10年來，柔韌性、握力呈“L”型變化。下肢爆發力呈“倒L”型變化。力量耐力持續上升，平衡能力持續下降，反應能力比較穩定，沒有顯著性變化。女性10年來，柔韌性持續下降、握力呈下降趨勢並趨於穩定，呈“L”型變化、下肢爆發力持續上升、力量耐力和反應能力先小幅下降後大幅上升呈“U”型變化、平衡能力比較穩定，沒有顯著性變化。

3. 體質綜合評定變化表現在：2010年男性和女性農民的體質綜合指數不合格率和合格率顯著下降，優秀和良好率顯著上升。男、女綜合體質有了明顯的改善。

4. 除男性柔韌性沒有差異外，2010年北京市農民的體質顯著低於城鎮居民。男性來說，形態上，農民的BMI小於城鎮居民，腰圍和腰臀比隨著年齡段的增長，呈現先大於後小於城鎮居民的特點。機能上，農民的肺活量都顯著小於城鎮居民。素質上，除柔韌性、握力20~39歲、平衡能力60~69歲無差異外，其他各項素質都不及城鎮居民。女性來說，形態上，除老年人的BMI外，鄉村BMI、腰圍和腰臀比都顯著大於城鎮居民；機能上，女性鄉村顯著小於城鎮居民；身體素質上，除20~39歲體前屈和握力外，各個年齡段的素質都不及城鎮居民。

關鍵字：北京，農民，體質，變化特徵

Abstract

The paper studied the physical fitness data to explore the change characteristics and rules of farmer's physical fitness in Beijing. The physical fitness test method and the SPSS15 were used to analyses the data. The results showed as follows:

First, with the highest point in 40 – 44years old, a parabola-shaped trend in the male BMI, waist circumference and waist-hip ration with age up. With the highest point in 45 – 49 years old, the parabolic shape appeared with the age up in female farmer. The waistline and the waist-hip ratio were increased with the age up. The vital capacity of the male and female farmer decreased gradually with the age up; with the highest point in 35-39 years old, the male and female grip showed the parabolic trend with the age up. The Flexibility, balance, lower limb explosive power and strength endurance were decreased with the age up.

Second, for 10 years, the “U”-shaped trend curve appeared in the male BMI, waistline

and the female waistline. No significant change showed in the female's BMI. Downward trend showed in male's lung capacity, while "L" shaped trend appeared in the female lung capacity for ten years. From the year of 2000, "L"- shaped trend showed in male's flexibility, grip change. Inverted "L"- shaped trend represented the lower explosive power of male farmers. The increased trend described the male's strength, while the decreased trend showed the male's balance, and stable trend represented the male's reaction capability for ten years. For female's physical fitness, continual decline trend implied the flexibility, "L"- shaped trend represented the grip strength, while instant improvement showed the lower limb explosive power, the "U"- shaped curve trend represented the strength endurance and responsibility, while no significant change showed the balance.

Third, the situation of the comprehensive assessment: the physical fitness of the male and female were improved significantly from 2005.

Fourth, Significant difference showed between the farmer and the urban residents in 2010 except the male physical flexibility, and other physical fitness index. That was to say, the farmer's physical fitness was significant lower than urban resident, except the following index: The male and female physical flexibility and grip of 20~39 years old, the male physical balance of 60~69 years old people.

Keywords: Beijing, Farmer, Physical fitness, Change character

上海市學生體質健康監測效果的多維解構

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The Multi-Dimensional Analysis on the Effects of National Physical Fitness Test for Students

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摘要

為調查上海市國家學生體質健康監測取得的效果。本研究主要採用問卷調查法，選取上海市5所大學、12所中學和6所小學的在校學生為調查對象，依據柯克派翠克評價模型設計問卷，將問卷的18個題項劃分為主觀認知和客觀評價兩個層次和認知、情感、參與行為、學習和效果五個維度，問卷的每個題項採用李克特式五級評分標準，通過分析學生在主客觀兩個層次和五個維度上的評分來反映學生體質監測的多方面效果。研究發現，上海市大中小學生對體質測試總體評價不高。其中，學生不存在對體質測試認知上的偏差，但是年齡因素影響了學生的認知水平。同時，學生較高的認知水平沒有引起情感上的積極結果，76.7%大學生和69.6%初高中學生評價為處於“一般”和“不喜歡”之間。由此可見推測，體質測試的客觀因素可能影響了學生對體質測試的喜歡程度。另外，學生情感上的不夠認同並沒有影響其參與行為上的變化。三組學生的“參與行為”都達到了90%以上，可見學校的體質測試的制度要求在保證學生參與體質測試結果上發揮了積極的作用。從學習效果來看，大中小學生比例分佈傾向于“正向評價”、“一般”和“負向評價”，這種隨年齡呈梯度排列的特點再次證明了年齡因素是影響學生體質測試效果的重要因素。最後，體質測試在培養學生積極參加體育鍛煉的作用中效果一般。建議今後加強完善學生體質測試客觀操作層面上的工作，充分重視年齡因素對體質測試效果的影響，並促使體質測試在培養學生良好的體育鍛煉習慣上發揮更加積極的作用。

關鍵字：體質健康監測，效果評價，多維解構

Abstract

To evaluate of the Shanghai Student physical fitness test effects. The subjects came from 5 universities, 12 secondary schools and six primary school students in Shanghai. According to Kirkpatrick evaluation model, the questionnaire divided into subjective items and objective evaluation of two levels and cognitive, emotional, involved in behavior, learning and results five dimensions, each of the questionnaire items using Likert-type five questions scoring criteria. The study found that pupils and students in Shanghai overall evaluations of the physical fitness test are not high. All the students do not exist on the physical fitness test cognitive bias, but the age factor affecting the student's cognitive level. In addition, more than 90% of the students can take part in the test. From the learning results from the test, the university students are the best, and the pupils are the lowest, which proves once again that the age affects the test effects. The suggest is that putting more attention to the effects of age on the impact of physical fitness testing, and to provide more physical activities chances to students to promote physical fitness level.

Keywords: national student physical fitness test, evaluation, Multi-Dimensional Analysis

2000~2010年成都市成年人身體形態變化趨勢探討

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The Analysis on Changes of the Anthropometry about Adults of Chengdu In a Decade

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摘要

目的：通過對2000年、2005年和2010年三次成都市國民體質監測成年人、老年人身體形態檢測指標極其派生指標進行系統分析，探討近十年間成都市成年人身體形態變化趨勢，為進一步研究成都市市民體質變化規律提供一定的理論幫助。

方法：以2000年、2005年和2010年成都市國民體質監測成年人和老年人作為研究人群，選取身體形態單項極其派生指標作為研究對象，分性別、城鄉、年齡段對數據進行統計分析。

結果：三次監測成都市20-69歲成年人身高差異無顯著性 ($p > 0.05$)；三次監測，成年人身高峰值均出現在20-24歲年齡段，但是與2005年相比，2010年身高峰值下降了1.9cm；2000年成年人身高在45歲以後呈直線下降趨勢，2005年這一年齡提前到了40歲，2010年和2005年基本保持一致；2005年身高的城鄉差異最大，2010年身高的城鄉差異最小。2000年到2010年，成年人BMI超過24的年齡從50歲提前到了40歲。2000年成都市參與調查的成、老年人超重肥胖率為36.2%，2005年這一比例下降至28.2%，而到了2010年，這一比例又上升到了39.7%，城鄉均大幅度提高。

結論：近十年來，成都市20-69歲成年人身高無明顯變化，且身高的城鄉差異逐步減小。無論城鎮還是鄉村，從2000年到2010年，成都市成年人肥胖程度均呈上升趨勢，且近五年為快速增長期。在超重肥胖人群當中，腹型肥胖人數比例上升明顯。

關鍵字：成都市，身體形態，變化趨勢，肥胖程度

Abstract

Purpose: Through the systematic analysis on the body shape indices obtained in the 2000, 2005 and 2010 National Fitness Monitoring in Chengdu on the children, adults and the old people, the article tried to study changes of the anthropometry about adults of Chengdu in a decade.

Results: There were no significant differences of height among the year 2000, 2005 and 2010($p > 0.05$). The peak value of height of adults was appeared at the age of 20-24 in all three surveillance. Compared with 2005, the peak of height of 2010 was decreased by 1.9 cm. After the age of 45, there was a linear decline in the height of adult. The difference of height between the crowd of rural and urban got the maximum in the year of 2005 and got the minimum in the year of 2010. In 2000, the adults' BMI exceeded 24 after the age of 50, but in 2010, the age ahead to 40. The overweight and obesity rate of Chengdu citizens was 36.2% in 2000, and the ratio rose to 39.7% in 2010.

Conclusions: Over the past decade, there was no significant changes of the height of adults aged 20-69 in Chengdu. But the difference of height between rural and urban was gradually reducing. From 2000 to 2010, adult overweight and obesity ratio was in a upward trend.

Keywords: Chengdu, Body shape, Trends, Overweight and obesity

海南省老年人（60~69歲）2000年~2010年體質變化比較研究

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Comparative studying of The elderly (60~69) physical Change from 2000 to 2010 in Hainan province

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摘要

研究目的：通過對海南省60~69歲城鄉、男女老年人群近10年的身體形態、身體機能以及身體素質的動態變化進行對比分析，討論海南省老年人體質的變化規律，對科學實施全民健身計畫，提高老年人生存品質，同時對海南省老年人體質的跟蹤調查研究具有重要作用。

研究方法：統計分析法；邏輯分析法

研究結果：

1. 海南省城鎮老年人10年間身體形態變化較大，身高增長非常顯著，腰圍、臀圍、上臂部皮褶厚度下降非常顯著，肩胛皮褶下降顯著。身體機能方面，安靜心率增長顯著，收縮壓下降顯著，舒張壓升高非常顯著。身體素質方面，力量素質下降非常顯著，但反應時用時縮短非常顯著。

2. 海南省鄉村老年人10年間身體形態方面，體重、胸圍、腰圍增長非常顯著，上臂部皮褶下降非常顯著，腹部皮褶增長顯著。生理機能上，安靜心率下降顯著，收縮壓、舒張壓升高非常顯著，肺活量升高顯著。身體素質方面，力量素質、平衡能力下降非常顯著，反應時縮短非常顯著。

3. 海南省男性老年人10年間身體形態變化方面，臀圍、上臂部皮褶、肩胛部皮褶下降非常顯著。生理機能方面，舒張壓增加非常顯著。身體素質方面，柔韌素質增加顯著、力量素質下降非常顯著、平衡能力下降顯著，反應時縮短非常顯著。

4. 海南省女性老年人10年間身體形態變化方面，體重增加顯著，腹部皮褶厚度增加非常顯著。生理機能方面，舒張壓、肺活量增加非常顯著。身體素質方面，力量素質下降顯著，反應時縮短非常顯著。

5. 海南省老年人10年間身體形態變化方面，身高增長顯著，體重增長非常顯著。臀圍、肩胛部皮褶下降顯著，上臂部皮褶下降非常顯著。生理機能方面，舒張壓增長非常顯著，肺活量增長顯著。身體素質方面，力量素質下降非常顯著，平衡能力下降顯著，反應時縮短非常顯著。

關鍵字：海南省，老年人，體質

Abstracts

Objective: comparative analysing physical changes about the (60-69) urban and rural, men and women old people's body shape, physical function and physical dynamics in 10 years of Hainan Province. discussing The law of the implementation fitness. improving life quality of older people, IT is important to follow-up survey of the old people's physical fitness in Hainan province.

Methods: statistical analysis; logical analysis

The results:

1. In 10 years the urban old body shape changed greatly in Hainan Province, very significant increase in height, waist circumference, hip circumference, skinfold thickness on the arm drop is very significant, scapular skinfold decreased significantly. Physical function, the resting heart rate increased significantly, systolic blood pressure was significantly decreased diastolic blood pressure is very significant. Physical fitness, the strength deterioration of the quality is very significant, but the response time is significantly reduced with time.
2. In 10 years villages old in body shape, weight, bust, waist up is very significant, on the arm skin-fold decrease is very significant, abdominal skinfold increased significantly. Physiological function, the resting heart rate decreased significantly, systolic blood pressure, diastolic blood pressure is very significant, vital capacity increased significantly. Physical aspects, power quality, a very significant decline in balance, reaction time is shortened significantly.

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3. In 10 years old male body shape change, hip, upper arm skin fold, scapular skinfold decreased very significantly. Physiological function, the diastolic blood pressure increase is very significant. Physical aspects, a significant increase in the quality of flexibility, strength, a very significant decline in the quality, balance decreased significantly shorten the reaction time is very significant.
4. In 10 years female body shape change, a significant weight gain, abdominal skin fold thickness increase is very significant. Physiological function, the diastolic blood pressure, lung capacity increase is very significant. Physical fitness, the strength of a significant decline in the quality, shorten reaction time is very significant.
5. In 10 years old body shape change, a significant increase in height, weight gain is very significant. Hip, scapular skinfold decreased significantly, on the arm skin-fold decrease is very significant. Physiological function, the diastolic blood pressure increase is very significant, vital capacity increased significantly. Physical fitness, the strength of a very significant decline in the quality, balance decreased significantly shorten the reaction time is very significant.

Keywords: Hainan Province, the elderly, physical fitness

“十五”末與“十一五”末山西農民體質的比較研究

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The comparative research of the physical fitness of farmers in shanxi province between the end of “The 10th five year plan” and “The 11th five year plan”

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摘要

研究目的：“十一五”末的2010年與“十五”末的2005年相比，山西農民恩格爾係數下降、收入水平提高，表明山西農民生活品質進一步提升。在整體生活呈現出新的特點的同時，是否帶來生活方式的轉變和體質水平的提高？本文以2005年第二次國民體質監測和2010年第三次國民體質監測山西農民為研究對象，研究和探討“十五”末與“十一五”末山西農民的體質變化特徵。山西是中國中部一個相對落後的省份，通過研究山西農民的體質，可以從一個角度窺視中國農民五年來體質的變化特徵。

研究方法：以山西省2005年和2010年國民體質監測11個市的55個行政村20~59歲農民為研究對象。2005年為6046人，男性3036人，女性3010人；2010年為9821人，男性4700人，女性5121人。研究指標包括體質達成率和身體形態、機能和素質等11項指標。數據經統計處理進行2010年與2005年體質等級率U檢驗；不同體質指標不同年齡段平均數T檢驗。

研究結果：

1. 男子乙組體質優秀率、合格以上率2010年低於2005年，未合格率2010年高於2005年，具有非常顯著性差異 $P < 0.01$ 。
2. 2010年男女大部分年齡段BMI大於2005年，差異具有顯著性 $P < 0.05$ 。
3. 2010年男女肺活量、臺階指數高於2005年，多數年齡段差異具有顯著性 $P < 0.05$ 。

4. 男女多數年齡段2010年握力小於2005年，差異具有顯著性 $P < 0.01$ 、 $P < 0.05$ 。男子縱跳35~39歲組和女子25~29歲組，2010年小於2005年，具有顯著性差異 $P < 0.01$ 、 $P < 0.05$ ；20~24歲男子俯臥撐和女子仰臥起坐、35~39歲女子仰臥起坐2010年大於2005年差異具有顯著性 $P < 0.01$ 、 $P < 0.05$ ；男子坐位體前屈25~29歲、50~54歲，女子25~29歲、40~44歲組，2010年小於2005年，差異具有顯著性 $P < 0.05$ ；2010年男子、女子的閉眼單腳站立時間小於2005年，差異具有顯著性 $P < 0.01$ 、 $P < 0.05$ ；2010年選擇反應時慢於2005年，在男子組的多數年齡段和女子個別年齡段，差異具有顯著性 $P < 0.01$ 、 $P < 0.05$ 。

結論與建議：

1. 收入水平提高並沒有使農民體質水平提高。健身對於經濟環境相對落後的農村畢竟不是第一需要，國家應給予更多的扶持，改善農村體育健身環境，可能對農民體質水平的提高有促進作用。

2. 收入水平提高使農民腹型肥胖趨勢明顯。缺乏經常有效的體育鍛煉是導致山西農民肥胖的原因之一。

3. 收入水平提高使農民的心肺功能改善。收入增加為農民參加體育活動提供了經濟保障，“十一五”期間，山西省共引導建設農村體育場地22845個，覆蓋全省行政村的80%，發展農村社會體育指導員2萬多人，使農村體育呈現出的良好局面。

4. 收入水平提高使山西農民身體素質出現下降的趨勢。可能與農民參與體育鍛煉的比率較低有關。

關鍵字：山西，農民，體質，特徵

Abstract

Introduction: By comparing the data of the end of the “11th Five Year Plan” and the “10th Five Year Plan” which is 2010 and 2005, the decrease of the Engel Coefficient and the increase of income of farmers in Shanxi Province showed the improvement of the quality of the livelihood. Is there any change of their life style and advancement of their physical fitness under the new tendency of their whole life? The data of the second physical fitness surveillance in 2005 and the third physical fitness surveillance in 2010 is conducted to

research and discuss the change of the physical fitness of farmers in Shanxi Province between the “10th Five Year Plan” and the “11th Five Year Plan”. Shanxi province is situated in the middle of China, which has backward economy. Through studying the physical fitness of villagers in Shanxi province, from one aspect, it reflects the physical fitness of villagers in China.

Methods: The data from the physical fitness surveillance of Shanxi province in 2005 and 2010 are used. The surveillances were conducted by selecting farmers aged between 20 and 59 from 55 administrative villages in 11 cities in the province. There were 6046 people been tested in 2005, consists of 3036 males and 3010 females. And 9821 in 2010, 4700 for males and 5121 for females. The research includes standard rate, anthropometry, physiological fitness, physical activity and eleven items. The data had been processed by using the U-test to compare the physical standard rate in 2010 and 2005, and the average of different level of fitness standard and age group by using T-test.

Result:

1. The excellent rate and pass rate of Male Group 2 in 2010 was lower than in 2005, with an obvious distinction $P<0.01$.
2. The BMI of the most age groups for both female and male was greater than 2005 with an obvious distinction $P<0.05$.
3. The vital capacity and step index for both female and male were greater than 2005, with an obvious distinction $P<0.05$ for most of the age groups.
4. Grip in most age groups for both female and male were lower than 2005, with an obvious distinction $P<0.01$ and $P<0.05$. Vertical jump aged between 35 and 39 for males and 25 and 29 for females were lower than 2005, with an obvious distinction $P<0.01$, $P<0.05$. Push up for males and sit-ups for females aged between 20 and 24, sit-ups for females aged between 35 and 39 in 2010 were greater than 2005, with an obvious distinction $P<0.05$, $P<0.01$. Sit-and-reach were lower than 2005 in 2010, for males aged between 25 and 29, and between 50 and 54, for females aged between 25 and 29, and between 40 and 44, with an obvious distinction $P<0.05$. Close eyes balance for both females and males was lower than 2005 in 2010, with an obvious distinction $P<0.01$ and $P<0.05$. Choice reaction time was slower than 2005 in 2010 in

most age groups for males and some groups for females, with an obvious distinction $P < 0.01$, $P < 0.05$.

Conclusion:

1. The physical fitness hasn't been improved by the increase of income. The government should give more support to improve the physical fitness environment of those relative poor rural areas, which could be help for the betterment of the physical fitness of farmers.
2. There is an obvious tendency of ventral fatness under the increase of income, one of the reason is lack of sports exercise.
3. Heart and lung function had been improved by the increase of income. The increase of income provided an economic guarantee of doing sports exercise. During the "11th Five Year Plan", the government of Shanxi Province helped to construct 22,845 new sports fields in rural areas, covered 80% of the administrative villages within the province, and had 20,000 new social sports instructors, leading a good situation.
4. There is a decreasing tendency of physical fitness of farmers in Shanxi Province by the increase of income level, probably because of the low rate of joining sports activities.

Keyword: Shanxi, farmers, physical fitness, characteristic

2005~2010年廣西壯—漢族老年人體質變化特徵分析

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The Analysis on the Physical fitness of the elderly of Zhuang and Han Nationalities during the Years Between 2005 and 2010

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摘要

本文根據2005、2010年兩年度國民體質監測提供的資料，對五年來，廣西老年人體質狀況進行比較分析，以求充分瞭解老年人體質現狀，希望對認識老齡化社會有一定幫助。經分析得出：

1. 壯漢族變化率趨勢，不完全相同，表現出明顯的差異性。漢族人群，除腰臀比、腰圍指數在下降外，所有形態指標在上升，上升幅度超過壯族的有：身高、體重、胸圍、臀圍、BMI、克托萊指數、胸圍指數。

2. 漢族女性身體形態，朝理想模式靠近。身體機能方面，安靜心率及血壓有所升高，壯族人群血壓一直比漢族人群要高，肺活量男女都有明顯的升高，但壯族人群增幅要明顯小於漢族人群。

3. 廣西總體握力素質下降，經分析，主要是漢族男性握力大幅下降，而且女性不降反升。

關鍵字：廣西壯族自治區，壯族，體質

Abstract

In this paper, according to the national physical fitness surveillance data of 2005 and 2010, the physical fitness of the aged for five years were analyzed, in order to fully understand the elderly fitness present situation and the ageing society. It's concluded that, the trend

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of Zhuang and Han nationality fitness showed significant difference. While the Han population, except the waist-to-hip ratio, waist circumference index is on the decline, all morphological index on the rise, for example: height, weight, chest circumference, waistline, BMI are higher than Zhuang nationality. And more, the Han nationality female body shape is toward the ideal model to. In Physical function, heart rate and blood pressure increase, but the vital capacity, men and women have significantly increased. While Zhuang population blood pressure has been higher than Han nationality, and vital capacity increase is clearly smaller than the Han population. At last, Guangxi overall grip strength quality drops, it is because that mainly the Han nationality male grip strength decreased significantly.

Keywords: the Guangxi Zhuang Autonomous Region, Zhuang nationality, Physical Fitness

2010年西藏自治區成年人體質現狀研究

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The Analysis on Adult Physical Fitness of XiZang in 2010

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摘要

本文通過對2010年西藏國民體質監測中成年人身體形態、機能、素質部分測試指標及其派生指標，從體質綜合水平、體質等級達成率、體質單指標年齡變化趨勢和性別差異等層面進行分析描述，力圖進一步反映西藏成年人體質現狀及變化特徵。結論得出：1、西藏自治區成年人體質綜合指數低於全國平均水平；其中，男性略低於女性，城鎮略高於鄉村；林芝地區>拉薩市>那曲地區。2、西藏自治區成年人體質評價等級達成率優秀率、良好率較低；其中，女性成年人在良好率、優秀率上分別好於男性；城鎮成年人在合格率、良好率、優秀率上分別好於鄉村；在優秀率方面，拉薩市>林芝地區>那曲地區。3、2010年成年人身高繼續呈現增齡性降低，體重、胸圍、腰圍和皮褶厚度則隨年齡增長而增長的特點；2010年成年人的身體機能（肺活量）隨年齡增長而下降的特點；2010年成年人的身體素質（爆發力、柔韌素質、平衡能力與反應速度）隨年齡增長而下降的特點。

關鍵字：西藏，國民體質監測，成年人，形態，機能，素質

Abstract

This paper is further reflected by the 2010 Tibetan national physique monitoring the adult body shape, function, quality indicators of some of the test and its derived indicators, describe the analysis of age trends and gender differences in levels, trying to Tibet Adult Constitution in the Variation of. Draw conclusions: 1, the Tibet Autonomous Region, adult fitness index is below the national average; Among them, the male slightly lower than the female, slightly higher than the rural towns; Nyingchi Lhasa City Nagqu. 2, excellent

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rate of the adult group of the Tibet Autonomous Region Physical Fitness Evaluation level compliance rate, good rate lower; which female adults in good rates, excellent rate better than men; urban adults in the pass rate, good rates, excellent rate of were better than rural areas; excellent rate, Lhasa City, Nyingchi> Nagqu. 3, 2010 adult height continued to show the aging lower body weight, bust, waist circumference and skinfold thickness with age and growth; age of adult body function (vital capacity) in 2010 and drop features; 2010 annual adult physical fitness (explosive power, flexibility, quality, balance and reaction speed) decreased with age.

Keywords: Xi Zang, National Physical Fitness Surveillance, shape, adult, Function, Quality

恩施土家族體質狀況及其影響因素的研究

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**The Survey of the physical fitness and influence factor of tujia folk in
Enshi**

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摘要

主要結論是：一.土家族身型相對較瘦小，但總體上營養狀況並不差。體態健美，適應山地生活和勞作。在心肺、血管的功能及健康水平方面佔有相當優勢。擅長需要耐力的活動，而在柔韌性、靈活性、平衡、爆發力等運動能力上表現較差。二.土家族2010年比2005年在心血管功能及健康方面的優勢得到加強，而身體素質方面的劣勢也在加大。女子在形態方面的變化比男子要大。三.恩施土家族體質特徵較接近於中國西南部的雲貴高原和川渝山區居民的體質特徵。恩施的海拔高度是山地土家族體質特徵的主要環境影響因素。四.隨著西部大開發，恩施經濟迅速發展，恩施土家族體質水平隨之提高。越是發展起步階段，體質改善得越快，越往後，體質改善效果越明顯。五.土家族主動參加鍛煉的體育人口較少。生活較閒適散淡，生活節奏較慢，具有山地生活方式的特點。

關鍵字：恩施；土家族；體質狀況；影響因素

Abstract

The main conclusions are: First,the body model of Tujia is thinner,but its nutritional status is not poor, its posture is vigorous, adapt to life and labour in mountain area, have quite advantage on function and Health level of cardiopulmonary and vascellum, is good at endurance activities, but is not good at suppleness, flexibility, equilibrium, and explosive force. Second,its edge enhanced on function and health level of cardiopulmonary and vascellum, but its weaknesses increase on physical quality in 2010 than in 2005. Changes of women's shape are bigger than men's. Third, physical characteristics of Enshi Tujia

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close to mountainous area residents in Yunnan, Guizhou, Sichuan. The altitude in Enshi is main influence factor to physical fitness of Enshi Tujia. Fourth, rapid economic development improve the physical fitness of Enshi Tujia. Fifth, sports population of Tujia in Enshi mountainous area is less than other area.

Keywords: Enshi, Tujia nationality, the physical fitness, influence factor

江蘇省成年人肥胖罹患率的10年追蹤研究

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Ten-Year Follow-Up Study on Obesity Prevalence of Adults in Jiangsu Province

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摘要

目的：通過年齡期間隊列分析，闡明年齡、觀察時期和出生隊列對江蘇省成年人肥胖罹患率的影響，為肥胖的預防與控制提供科學依據。

方法：以江蘇省20~69歲的成年人為研究對象，採用分層整群抽樣的方法，收集2000年~2010年的肥胖數據，採用SAS軟體分析資料。

結果：1946~1950年出生隊列到1976~1980年出生隊列的肥胖罹患率在2000~2010年間逐漸上升（ $P < 0.05$ ）。而1931~1935年出生隊列到1941~1945年出生隊列等三個人群的肥胖罹患率並沒有明顯增加（ $P > 0.05$ ）。25歲以上各年齡組隨著年齡的增加，發生肥胖的危險性逐漸增大。25歲以上各組的OR值與20~25歲基準組相比均有統計學差異（ $P < 0.05$ ）。與1995~1999年相比，各觀察時期的作用並不明顯（ $P > 0.05$ ）。與1976~1980年出生隊列相比，1951~1955年及其之後出生的各隊列發生肥胖的危險性差別不明顯（ $P > 0.05$ ）；但是從1946~1950年出生隊列到1931~1935年出生隊列發生肥胖的危險性則逐漸增強（ $P < 0.05$ ），其中1936~1940年出生隊列罹患肥胖病的危險性最高（OR=2.93）。

結論：隨著年齡的增加，發生肥胖的危險性逐漸增大；2000年以來的時代變遷對肥胖的影響並不明顯；不同年代出生的人發生肥胖的危險性是有差異的；農村將是今後控制肥胖的重點地區，而控制肥胖過快增長的重點人群在45歲之前。

關鍵字：肥胖，成年人，年齡期間隊列分析，橫斷面調查

Abstract

Objective: Through the age-period-cohort analysis, expatiating on the influence of obesity prevalence at age, observation period and birth cohort of adults in Jiangsu province and providing the scientific basis for obesity prevention and control. Methods: With Jiangsu province 20-69 adults as the research object, using the stratified cluster sampling method to collect obese data in 2000-2010 and using SAS software to analyze the data. Results: Obesity prevalence of 1946-1950 birth cohort to 1976-1980 birth cohort gradually increased ($P < 0.05$) from 2000 to 2010. Obesity prevalence from 1931-1935 birth cohort to 1941-1945 birth cohort was not significantly increased ($P > 0.05$). With increasing age in each age group of over 25 years old, the risk of obesity increased gradually. Compared with baseline groups of 20-25 years old, OR values of age groups of over 25 were statistical differences ($P < 0.05$). Compared with the period of 1995-1999, the other periods had a slight influence on the obesity prevalence ($P > 0.05$). Compared with 1976-80 birth cohort, the risks of obesity of born cohorts after 1951-1955 were not significant difference ($P > 0.05$). But the risk of obesity from 1946-1950 to 1931-1935 birth cohort was gradually increasing ($P < 0.05$). The 1936-1940 birth cohort ranked in the highest risk of obesity (OR = 2.93).

Conclusion: With increasing age, the risk of obesity increased gradually; Era changes on the impact of obesity is not significantly different since the 2000; Obesity risks of those born in the different time are different; Rural area will be obesity control key area of the future and the key population of the excessive growth in control obesity is those of less than 45 years old.

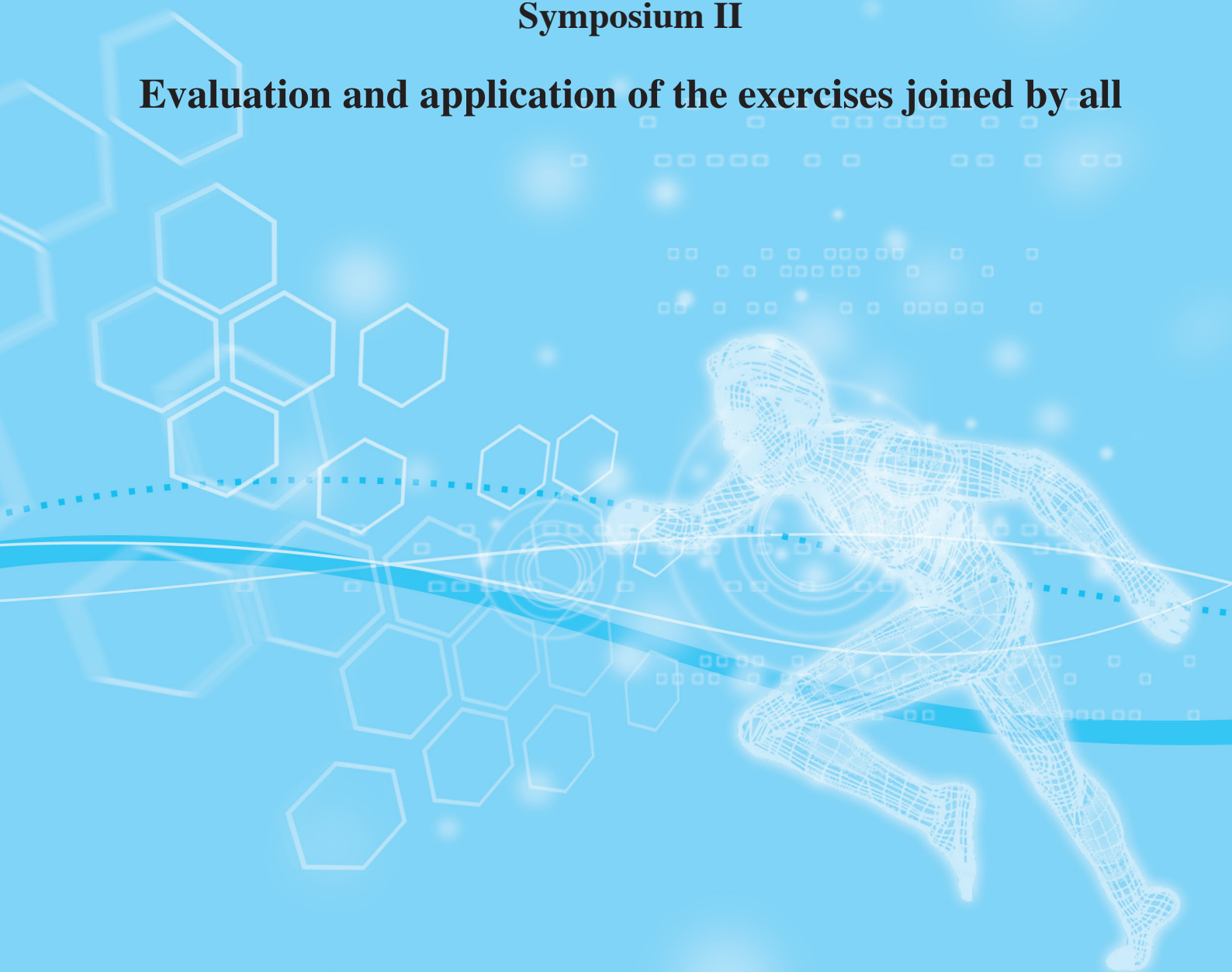
Keywords: obesity, adult, age-period-cohort analysis, cross-sectional survey

專題報告 II

大眾參加體育鍛煉程度的評價與應用

Symposium II

Evaluation and application of the exercises joined by all



兒童少年身體活動狀況的研究

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The Study on Physical Activity of School-aged Children

摘要

兒少時期是人生的關鍵時期，其健康行為、體育習慣對於今後人生的生活方式都有直接影響，而青春期尤為關鍵。身體活動（physical activity, PA）有利於促進兒童少年的生長發育並增強體質，但身體活動不足呈流行趨勢，而全面系統研究分析兒童少年的身體活動在我國的報導少見，因此，調研兒童少年的身體活動，特別是體育活動情況，對於促進其健康成長、健康行為的形成均有重要意義，也是相關政策、干預方案的制定的科學基礎和重要參考依據。

研究目的：通過對北京市兒童少年（11、13、15歲）身體活動（PA），以及久坐少動行為（Sedentary）的現狀的調查研究，系統分析兒童青少年的身體活動基本情況，建立了以WHO兒童青少年健康行為研究專案的可比性資料庫，為加強兒童少年的健康教育和增強兒童少年體質的干預提供資訊，從而為國家教育、衛生和體育相關決策部門制定政策法規提供科學依據。

研究方法：採用多階段分層隨機整群的抽樣方法，抽取北京市11、13、15歲兒童少年共5828名作為研究對象。使用《2008年學齡兒童健康行為調查》問卷對兒童少年的健康行為進行調查分析，本文研究分析其中身體活動及相關聯的久坐少動行為。所有資料由SPSS15.0統計軟體進行處理，對資料的百分數做描述性分析，結果進行非參數檢驗。

研究結論：

1. 北京市兒童少年通常一周和剛過去7天的中等強度及以上的身體活動達到活躍水平的比例均為48.2%；學校課堂之外的大強度身體活動的頻率和每週時間達到活躍水平的比例分別為48.0%和32.6%；兒童少年目前參加俱樂部等有組織的

體育鍛煉的比例僅為18.8%；增進健康是兒童少年參與運動的第一重要的動機。

2. 北京市兒童少年中等強度及以上的身體活動和學校課堂之外的大強度身體活動達到活躍水平的比例在不同年齡、性別、城鄉中均表現為：年齡低 > 年齡高，男生 > 女生，城鎮 > 鄉村，但在不同學校中表現不一致。兒童少年目前參加有組織的體育鍛煉的比例在不同性別中的差異表現不同，表現為女生略高於男生。

3. 北京市兒童少年中等強度及以上的身體活動達到活躍水平的比例高於歐美國家，但學校課堂之外的大強度身體活動達到活躍水平的比例低於歐美國家。

4. 兒童青少年寫作業時間在四種久坐行為中最高，看電視是最主要的靜態娛樂方式，玩電子遊戲和用電腦的時間較少。

關鍵字：兒童少年，身體活動，久坐少動行為，健康行為

Abstract

Regular physical activity is beneficial to children's growth and physical fitness, and is of special importance on weight control of obese children. Moreover, physical activity pattern which is developed in childhood, may track into adult life, and it may prevent chronic disease in adulthood. However, more and more children become inactive. Therefore, it is significant to probe into the physical activity pattern of children in China. And there is short of systematical and in depth research on physical activity of children in China.

Objectives: The purpose of this thesis was to examine the current status of physical activity among school-aged children at the age of 11, 13 and 15 in Beijing and provide scientific database for the police and intervention.

Methods: 5828 children at the age of 11, 13 and 15 in Beijing were sampled in the approach of multi-stage stratified random sampling. The questionnaire of "2008 health behavior of school-aged children" was used. The physical activity and sedentary behavior were analyzed in this article. All statistical analyses were performed by SPSS15.0. Significance was achieved when $P < 0.05$. Descriptive statistics and nonparametric tests were used to compare the percentage.

Conclusions:

1. The proportion of physically active in moderate to vigorous intensity of school-aged children in Beijing in the past 7 days and a typical week was 48.2%. The proportion of physically active in the frequency and accumulated time per week of vigorous physical activity outside school classes were 48.0% and 32.6% respectively. The proportion of participating organizational exercise training was 18.8%. Health promotion was the primary motivation of participating in physical activity for children.
2. The proportion of physically active in moderate to vigorous intensity and in vigorous intensity outside school classes of school-aged children in Beijing in different groups (age, gender, and urban-rural) were all as follow: the younger were higher than the elder, boys were higher than girls, children from urban area were higher than children from rural area, with the grouping by school in exception. Girls were slightly higher than boys only in participating organizational exercise training.
3. The proportion of physically active in moderate to vigorous intensity among school-aged children in China was higher than that of in Europe and America, while the proportion of physically active in vigorous intensity outside school classes was lower than their European and American peers.
4. Among the sedentary behaviors, children tool longest time for doing homework, watching TV was the main entertainment activity.

KeyWords: School-aged Children, Physical Activity, Sedentary Behavior, Health Behavior, Socio-economic status, Family affluence scale

中國居民閒暇時間體育鍛煉“完全靜坐類”人群特徵分析

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Chinese residents' leisure time physical exercise full sit-class
“population of characteristics

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摘要

研究目的：在過去的30年間，我國的經濟得到了快速發展，與之相伴隨，我國城鄉居民的生活方式和體力活動模式也在發生著改變。國內雖然進行了一些體力活動的相關研究，但尚缺乏大規模的人群資料分析。本文利用2010年第三次國民體質監測工作中，在全國31省份開展的成年人群體力活動的調查資料，進行中國居民閒暇時間體育鍛煉“完全靜坐類”人群特徵的探討，以便為政府部門制定相關的政策提供科學參考。

研究對象：本次調研採用“分層隨機整群的抽樣”原則，從全國31個省（區、市）的2874個機關、企事業單位、幼稚園、行政村中抽取了231925人。其中，3-6歲幼兒51159人，20-59歲成年人155054人，60-69歲老年人25712人

研究方法：問卷調查法，問卷實施採用“現場一對一訪問”的形式。問卷是在“IPAQ問卷”基礎上，改良後適合中國國情，並經信、效度檢驗的“中國城鄉居民體力活動調查問卷”。

調查內容：

1. 人口、社會學特徵（性別、年齡、城鄉、受教育程度、職業、工作（單位性質、場所）屬性）；
2. 飲食等生活習慣、居住地屬性、慢性病史、回顧性的交通、工作、家務、閒暇時段的體力活動狀況。

數據錄入、統計：使用Data3.1錄入軟體對問卷進行雙錄入，所有數據由SPSS15.0統計軟體進行處理；主要使用單因素方差分析、獨立樣本t檢驗，以及因數分析、K-Means聚類分析。

研究結果：首先進行了性別、年齡組、受教育程度、職業、工作單位性質、工作場所、單位體育氛圍（組織活動、體育補貼）、居住地（單位）體育設施、場所、飲食習慣、自身體質狀況等16個維度與閒暇時間體力活動“完全靜坐類”人群進行了關聯分析。

在以上分析結果的基礎上，以“完全靜坐類”人群的特徵為影響因數，以各特徵的人數百分比為依據。在31各省（區、市）樣本中進行了因數分析。

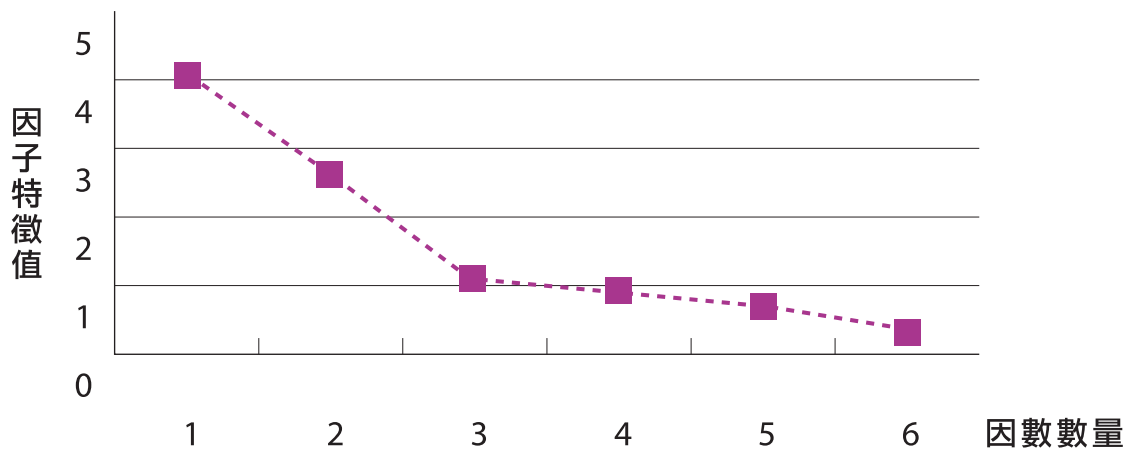


圖 閒暇時間“完全靜坐類”人群特徵因數

結果顯示：三類因數起到了重要作用。第一類因數和“農民”、“從事農、林、牧、漁水利、生產、運輸設備操作等職業”和“田間為主工作場所”具有很高的相關係數。

第二因數和“體育鍛煉的氛圍”具有較高的相關係數。

第三因數和交通類、家務類“完全靜坐”具有較高的相關係數（見下表）。

表 因數載荷表

相關因素	因數		
	1	2	3
農民	0.936	0.021	0.006
受教育程度低	0.671	0.467	0.022
從事農、林、牧、漁水利、生產、運輸設備操作等職業	0.927	-0.110	0.008
居住地離單位遠	0.423	0.456	0.032
主要以田間、廠礦車間為工作場所	0.925	-0.116	0.019
單位組織運動會	0.367	-0.790	0.023
工作中“完全靜坐類”	-0.901	0.087	-0.126
單位有體育體育補貼	0.412	-0.801	0.001
吃油炸食品	0.410	0.513	0.006
單位、居住場所有體育設施	0.367	-0.820	0.011
交通類“完全靜坐類”	0.236	0.125	0.716
吃早餐	0.522	0.453	0.004
家務類“完全靜坐類”	0.198	0.326	0.729
自身感覺體質好	0.476	0.500	0.013

結論：成年人群閒暇時間體力活動“完全靜坐類”人群特徵：社會屬性特徵：農民人群，工作方式體力活動過多的勞作方式，都是影響閒暇時間體力活動“完全靜坐類”的重要因素；社會相應制度、配套設施也是影響閒暇時間體力活動“完全靜坐類”的重要因素；行為方式特徵：交通、家務的積極活動會相應提高閒暇時間的體力活動活躍度。

關鍵字：中國，居民，完全靜坐類人群，特徵

Abstract

Research purposes: In the past 30 years, China's economy has been a rapid development, and the concomitant lifestyle and physical activity patterns of urban and rural residents in China is also undergoing changes. The country, although some physical activity, but is still a lack of large-scale population data analysis. In this paper, the 2010 third national physique monitoring work force survey of adults carried out by groups in the country's 31 provinces, Chinese residents in leisure time physical exercise "full sit-class population characteristics of, so that the development of relevant government departments policy to provide a scientific reference.

Object of study: This research uses the principle of "stratified random cluster sampling from the country's 31 provinces (autonomous regions and municipalities), 2874 authorities, enterprises, institutions, kindergartens, administrative villages collected 231,925 people. 51159 3-6-year-old children, 20-59-year-old adults, 155 054 people 60 to 69 years old 25712 people

Methods: Questionnaire, the questionnaire in the form of the implementation of a "live one-on-one access. The questionnaire is suitable for China on the basis of the IPAQ questionnaire, improved, and by letter, and Validity of Chinese urban and rural residents' physical activity questionnaire.

Investigation: (1) population, sociological characteristics (gender, age, urban and rural areas, education, occupation, work (in the nature, location) property); (2) diet, lifestyle, place of residence, property, history of chronic diseases, review of transportation, work, housework, leisure time physical activity status.

Data entry, statistics: use the Data 3.1 Input software double entry on the questionnaire, all the data processed by the SPSS 15.0 statistical software; using a single factor analysis of variance, independent samples t-test, and factor analysis, K-Means clustering analysis.

The results: At first, sex, age group, by education level, occupation, nature of the work unit, the workplace, the unit sports atmosphere (organization activities, sports subsidies), place of residence (in) sports facilities, places, eating habits, their physical condition 16 dimensions and leisure time physical activity "full sit-class populations of the correlation analysis.

To full sit-class population characteristics in the above analysis results based on impact factor, based on the percentage of each characteristic. Factor analysis was conducted in 31 provinces (autonomous regions and municipalities) samples.

The results showed that: three types of factors play an important role. The first class of factors and “farmers” in agriculture, forestry, animal husbandry, fishery and water conservancy, production, transportation, equipment operation career mainly in the workplace “and” field “has a high correlation coefficient. Second factor and the atmosphere of physical exercise has a high correlation coefficient. The third factor, and traffic, domestic class full sit-in “has a higher correlation coefficient

Conclusion:Adult population, leisure time physical activity “full sit-class population characteristics: the characteristics of social attributes: the crowd of farmers, the excessive toil of the working methods of physical activity are important factors affect leisure time physical activity” full sit-class “; corresponding social systemsupporting facilities also affect leisure time physical activity “full sit-class” an important factor; behavior characteristics: transportation, housework, active in a corresponding increase in leisure time physical activity.

Keywords: Chinese, resident, complete sit-class population, characteristics

貴州省成年人體質達成率與公共體育設施的關係研究

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Study on relation between physical fitness qualification ratios Of adult in Guizhou province and public sports facility

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摘要

研究目的：探討貴州省成年人體質達成率和公共體育設施的關係。

研究方法：採用問卷法對貴州省城鄉居民體育鍛煉情況和公共體育設施情況進行調查，並抽取貴州省2010年國民體質監測中成年人體質數據進行統計分析。

結果：

1. 貴州省成年人居住地和在工作場所同時有公共體育設施的人數比例只有13.9%，至少有一處有公共體育設施的人數比例為32.9%。
2. 參加體育鍛煉的人群主要選擇“就近”的體育場所進行鍛煉，“缺乏時間”和“缺乏場地設施”仍然是當前妨礙我省城鄉居民參加體育鍛煉的主要因素。
3. 居住地或工作場所有公共體育設施的城鄉居民的體質達成率為78.6%，比居住地或工作場所無公共體育設施的城鄉居民的體質達成率（76%）高2.6個百分點。其中，達到優秀和良好水平的分別高出3.5和2.6個百分點。
4. 在不同性別和城鄉之間，居住地有無公共體育設施的居民體質也存在一定差異。

結論：

1. 貴州省公共體育設施相對比較缺乏。

2. 在不同體育鍛煉環境下居住的居民體質存在差異，居住地和所有公共體育設施的居民體質狀況要好於沒有公共體育設施的，尤其是達到優秀等級的。

3. 結合貴州省地處欠發達的西部地區、經濟發展滯後的省情，一是要完善和發展公共體育健身場地設施體系；二是要提高體育設施利用率，加強居民生活和工作周圍空餘地段簡易實用的體育設施的修建

關鍵字：體質，公共體育設施，貴州省

Abstract

Objective: To discuss the relation between physical fitness qualification ratio and public sports facility.

Methods: This study using questionnaires conducted a survey on the physical fitness qualification ratio and the physical exercise patterns of the residents in urban and rural areas of Guizhou province, and to take the national constitution in 2010 in Guizhou Province in the adult body monitoring data for statistical analysis.

Results:

1. The proportion of public sports facilities in residence and workplace was only 13.9%; and the proportion of public sports facilities in residence or workplace was 32.9%.
2. People mainly choused the nearby public sports sites to take physical exercise. In the meantime, the lack of sports field facilities remained a major factor in affecting residents' participation in physical exercises.
3. Compared with the people who didn't live and work in a place of public sports facilities, the physical fitness qualification ratio (78.6%) of adult in Guizhou province was higher by 2.6 percentage points. And the ratio which reached the level of excellence and good was higher by 3.5 and 2.6 percentage points respectively.
4. There still existed discrepancies between physical fitness in urban and rural areas, and in different gender.

Conclusion: The lack of sports field facilities in Guizhou province is more serious.

There still exist discrepancies between physical fitness in difference physical activity environments. The physical fitness of adult who lives and works in a place of public sports facilities is better, especially to achieve excellent grades. Combination of Guizhou Province is located in the less developed western region, economic development lags behind the situation in the province: First, to improve and develop public sports and fitness venues and facilities systems. Second, improve the utilization of sports facilities, to enhance living and working around the spare lots of simple and practical construction of sports facilities.

Key words: physical fitness, public sports facility, Guizhou Province

湖北成年人生活習慣與體力活動的調查

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Investigation on Hubei Adult Life Habits and Physical Activities

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摘要

目的：對成年人的生活習慣與體力活動進行了分析，並對2010年問卷的題目設計提出了某些建議。

方法：本文的研究對象為38038名參與2010年第三次湖北省國民體質監測的20-59歲人群，男女各為18841和19197例，分析指標請參見“結果”部分。

結果：湖北成年人中約有30%的人不是每天用早餐或根本不用早餐，51%的人食用過油炸等食品，每週至少有1次外出就餐（即有可能超量進食）的人數達55%。進一步的對比可以看到，有每天都用早餐習慣女性的比例比男性高4%，男性食用過油炸等食品、每週至少有1次外出就餐的人數百分比均大於女性（ $P<0.05$ ）；每天用早餐的人數百分比隨年齡增加而增加，增幅達23%（ $P<0.05$ ），同時食用油炸等食品、每週至少有1次外出就餐的人數百分比卻隨著年齡增加而減少（ $P<0.05$ ）；食用油炸等食品、每週至少有1次外出就餐的人數百分比，城鎮非體力高於城鎮體力、城鎮體力大於鄉村體力（農民）。

我省成年人“從不”熬夜的人數占38.6%。男性熬夜（包括“偶爾”和“經常”）的百分比是68.3%，大約比女性高12%（ $P<0.05$ ）；“從不”熬夜的人數百分比由“20~24歲”的26.1%逐漸增加到“55~59歲”的60.1%（ $P<0.05$ ），其中“鄉村體力”最高（45.0%）、“城鎮體力”第二（37.0%）、“城鎮非體力”最低（33.6%）。

男性“經常”感覺有壓力約比女性高5% ($P < 0.05$)，城鎮人群比鄉村人群高出4-5% ($P < 0.05$)；隨著年齡的增加，“經常”有壓力的人數百分比呈現先升後降的趨勢 ($P < 0.05$)，最高點30~34歲組24.5%，最低點55~59歲組11.0%。

“有”慢性病的占31.7%、“無”占52.8%，15.5%的人沒有把握判斷自己是否患病。女性“有”慢性病的占33.5%，大於男性的29.9% ($P < 0.05$)；“城鎮非體力”患病百分比是37.4%，比城、鄉體力勞動者9%左右 ($P < 0.05$)；患病的人數百分比明顯地隨年齡增加而增加 ($P < 0.05$)。

每週“7天”都有靜態活動的人數百分比接近60%，而且花費在靜態活動的平均時間在兩小時以上（136.2分鐘），而且男性大於女性、年齡較輕者更高 ($P < 0.05$)。與靜態活動相比，我省成年人參與“動態”活動的人數百分比要低得多，就每週“7天”都有的活動的人數百分比而言，散步為13.7%，小、中強度的體育鍛煉均值3%左右，大強度體育鍛煉僅為1%，每天平均花費的時間也明顯要少（每天大致在50~80分鐘之間）。

結論：

1. 我省成年人飲食與睡眠習慣，男性不如女性、城鎮不如鄉村、年輕人不如年長者；
2. 相反，男性人群、城鎮人群和年輕人自感的壓力卻更大；
3. 體質監測的問卷內容應該儘量避免重複提問、集體訊息個體填寫，多採用簡單易答的封閉式問題。

關鍵字：成年人，生活習慣，體力活動

Abstract

Object: This paper aims at analyzing Hubei adult life habits and physical activities, meanwhile giving some suggestions on designing 2010 questionnaire.

Methods: All 38038 research subjects in this paper, age from 20 to 59, are from 2010 third Hubei People's Physical Monitoring, including 18841 males and 19197 females. All analyzing indexes can be referred to "Results" section.

Results: Around 30% Hubei adults don't their take breakfast, occasionally or entirely; 51% of them have tried fried food; 55% eat out at least once a week, result in a possibility of overeating. To compare male with female, the number of women who regularly take breakfast is more than the number of men by 4%; there are more men than women who have tried fried food and eat out at least once a week ($P<0.05$). The number of the people who eat breakfast regularly increases along with age grows, varying by a percentage of 23% ($P<0.05$); less people eat out at least once a week as their age grow ($P<0.05$). More urban non-manual workers than manual workers have tried fried food and eaten out at least once a week, meanwhile more urban manual than rural manual (peasant).

It is about 38.6% people who "never" stay up late in Hubei. 68.3% male have ever stayed up late "occasionally" or "frequently", higher than female's by 12% ($P<0.05$). The percentage of "age 20-40 group" who "never" stay up late is 26.1%, progressively increase to 60.1% of "age 55-59 group" ($P<0.05$). 45% rural manual workers never stay up late, reach the highest percentage in compare with urban manual workers' 37% and urban non-manual workers' 33.6%.

The number of male who "frequently" feel themselves under pressure is more than the number of female by about 5% ($P<0.05$), besides, the number of urban people who "frequently" feel themselves under pressure is more than the number of rural people by around 4-5% ($P<0.05$). The proportions of people who "frequently" feel pressure ascend along with their age grow. Until the percentage reaches age 30-34 group's 24.5%, the highest point, from then on, the percentage begin to descend and tumble to age 55-59 group's 11.0%.

Among all people, 31.7% contract chronic disease, 52.8% do not, while the rest 15.5% are not confirmed. 33.5% women contract chronic disease, more than men's 29.9% ($P<0.05$). The percentage of urban non-manual workers who have contracted disease is 37.4%, fewer than urban and rural manual workers by about 9% ($P<0.05$). The proportion of patients obviously increases along with people's age goes ($P<0.05$).

There are about 60% people who act negatively (sitting, playing chess, watching TV etc.) for more than 2 hours (136.2 minutes) a day and 7 days a week. More males than females act negatively, while more youngsters than elders ($P<0.05$). The percentage of people who act positively is far lower than the one who act negatively. Among those who

exercise 7 days a week, 13.7% people take a walk. The average percentage of low and medium strength exercise is about 3%; the average percentage of high strength exercise is only up to 1% while people spend less time on it (50-80 minutes each day).

Conclusions:

1. Hubei female holds a healthier habit of eating and sleeping than male do; rural people behave better than urban people in this aspect, while elders do better than youngsters.
2. Contrarily, “male”, “urban people” and “youngster” feel more pressure on them than their counterparts do.
3. Instead of repeatedly putting same questions and getting just one person’s answer sheet which originally should be finished by mass, the physical monitoring questionnaire is supposed to adopt simple and closed questions as many as possible.

Keywords: Adult, Life Habits, Physical Activities

北京健身俱樂部消費者對俱樂部健康服務滿意度及需求的研究

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A research study on beijing fitness club's consumer's satisfaction and need of the health service

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摘要

採用問卷調查法、訪談法，就北京10家健身俱樂部439名消費者對俱樂部健康服務的滿意度及需求進行研究，結果表明：

1. 75.7%的消費者對現階段健康服務滿意程度一般，加入時間越長的消費者對團體課操房的滿意度越低；

2. 消費者對有專門教練隨時進行指導、對消費者意見給予及時回饋、讓消費者感受到受關注的感覺三方面的需求最強烈；

3. 加入俱樂部時間越長的消費者對課程計畫的需求度越高；

4. 85.9%的消費者在俱樂部健康服務品質和價格均提升時，仍然願意繼續參與俱樂部消費。

關鍵字：健身俱樂部，消費者，健康服務，滿意度，需求

Abstract

We studied on the service of 10 health clubs in Beijing and requirement from 439 customers through questionnaire survey and interview, the results told us:

1. For the current health service, 75.7% of customers think they are of an average level. The longer customers being in a gym house, the less satisfied they feel with the group exercise.
2. Most customers prefer to have personal coach, in-time suggestion and feedback to the opinions of customers, to make customers feel being paid close attention. Things of these three aspects are wanted and desired most among customers.
3. The longer customers stay in a health club, the more they require in their course arrangement.
4. 85.9% among customers are still willing to join in the health club if the expense and service quality are both promoted.

Keywords: fitness club, customers, health service, satisfaction degree, need

2005年與2010年河北省經濟較好與經濟一般城市成年女子健身程度的比較與分析

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The comparison and analysis of the developed and developing cities' adult women's fitness in Hebei Province in 2005 and 2010

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摘要

目的：通過數據統計全面瞭解2010年和2005年城市成年女子經濟較好與一般城市的健身程度和體質的差異和變化，來分析其可能產生的原因。

方法：根據河北省2005年和2010年兩次國民體質監測的數據，將11個城市分為經濟較好和經濟一般類別，用SPSS18.0對兩類別的成年女子的生活方式、身體形態、機能素質三個方面的數據進行統計，對五年來健身程度和體質狀況進行比較研究，客觀反映健身程度以及體質的發展變化，為下一階段河北省深入開展全民健身計畫提供客觀依據。

結果：

1. 經濟較好城市2010年除了20-24年齡組所有年齡段肥胖率均低於2005年，以40-59年齡組相差最大，隨年齡的上升肥胖率也上升，但是2010年較2005年肥胖率上升趨勢緩慢。而經濟一般城市20-24年齡組和25-29年齡組以及35-39年齡組和40-44年齡組2010年較2005年略有下降，但是30-34年齡組2010年較2005年略有上升，45-49年齡組、50-54年齡組及55-59年齡組2010年較2005年有上升，差距很大。

2. 經濟較好城市20-44年齡組2010年收縮壓均高於2005年，只有45-59歲年齡組2010年低於2005年，而經濟一般城市所有年齡組2010年收縮壓均低於2005

年，經濟較好城市20-39年齡組2010年舒張壓高於2005年，40-59年齡組2010年低於2005年，經濟一般城市20-24年齡組、40-44年齡組和50-59年齡組2010年低於2005年，其他年齡組2010年均高於2005年。

3. 經濟較好城市與經濟一般城市肺活量隨年齡呈下降趨勢，25-39年齡組2010年與2005年差異顯著， $P < 0.05$ 。

4. 經濟較好城市20-49年齡組臺階指數2010年較2005年上升，只有50-59年齡組2010年較2005年下降，但是經濟一般城市25-39年齡組2010年較2005年均下降，只有20-24年齡組、40-44年齡組、45-59年齡組有所上升。

5. 經濟較好城市20-24年齡組、45-49年齡組2010年較2005年握力有所提高，其他年齡組均下降，經濟一般城市只有20-24年齡組2010年較2005年上升，經濟一般城市2010年較2005年下降幅度較大。

6. 經濟較好城市20-44年齡組2010年較2005年坐位體前屈有上升，45-59年齡組2010年較2005年有下降，經濟一般城市只有50-54年齡組2010年較2005年有上升，其他年齡組2010年較2005年均下降。結論：生活方式與形態、機能和素質指標呈相關，年輕女性由於工作和生活壓力較小，有充裕的時間參加體育鍛煉，健康程度比較好，45歲以上女性同樣也有足夠的時間參加體育活動，身體機能素質有所改善。中間年齡組的女性正是工作和生活壓力較大的時期，參加體育鍛煉的時間較少，也導致機能和素質下降幅度較大。

關鍵字：城市成年女子，經濟較好城市，經濟一般城市，健身程度比較

Abstract

Object: Through a statistics of the comprehensive understanding about the city's general fitness level and physical differences and changes of the developed and developing cities' adult women in 2010 and 2005, analyze the possible causes.

Method: According to the national Physical Fitness data about 2010 and 2005, 11 cities will be divided into general categories of better economic category and general economic category, use SPSS18.0 to analyze the data of the female adult lifestyle, body shape and function. Aim to finish the comparative study of the fitness level and physical condition in five years, objectively reflect the development and change of the constitution and fitness, and provide an objective basis for the next national fitness program.

Result: 1. In addition to the 20-24 age group, the obesity of the better city in 2010 was less than 2005, with the largest difference between the 40-59 age group. The obesity rate increased with the rising age, but in 2010 compared to 2005 obesity rate rise slowly. The obesity rate of general cities' 20-24 and 25-29 age groups, 35-39 and 40-44 age groups declined slightly, but the 30-34 age group in 2010 increased slightly compared to 2005, 45-49, 50-54 and 55-59 age groups in 2010 compared to 2005 has increased, the gap is large. 2. The systolic blood pressure of better cities' 20-44 age group were higher in 2010 than 2005, only the 45-59 age group were lower than 2005. The systolic blood pressure of general cities' all groups were lower in 2010 than 2005. The diastolic blood pressure of better cities' 20-39 and 40-59 age group were higher in 2010 than 2005, the general cities' 20-24 age group, 40-44 age group and 50-59 age groups were lower than 2005, the other groups were higher than 2005. 3. The vital capacity of better and general cities decreased with the rising age, 25-39 age groups have significant difference in 2010 and 2005, $P < 0.05$. 4. The level index of better cities' 20-49 age group increased in 2010 compared to 2005, only the 50-59 age group decreased in 2010 compared to 2005, but the general cities' 20-24, 40-44, 45-59 age group increased in 2010 than 2005. 5. The grip strength of the better cities' 20-24, 45-49 age groups increased in 2010 than 2005, other groups are decreased in 2010 than 2005, the general cities' only 20-24 age group increased in 2010 compared to 2005, the general city decreased greatly than the better city. 6. The Sit and Reach of the better cities' 20-44 age group increased in 2010 than 2005, the 45-59 age group decreased, the general cities' only 50-54 age group increase in 2010 than 2005, and other groups decreased in 2010 than 2005.

Conclusion: The lifestyle was correlated with the body shape, function and quality indicators. Young women had plenty of time to participate in physical exercise and have better health because of less work and less life stress. The women over age 45 also have enough time to participate in sports activities, to improve the quality of physical function. The middle age group of women had much pressure from the life and work, have less time to participate in physical exercise, also lead to a larger decline in function and quality.

Keywords: city adult's women, the developed city, the developing city, fitness level comparison

老年人體育鍛煉行為分析及體育鍛煉對體質的影響

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Analysis on Behavior of Physical Exercises of the Elderly and the Influence of Physical Exercises to Fitness

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摘要

目的：調查和研究老年人參加體育鍛煉的行為特徵，分析體育鍛煉對老年人體質的影響。

方法：選取浙江省10個地市的60~69周歲的3958名老年人作為研究對象，按體育鍛煉的參與程度進行分組。對研究對象採用問卷調查和體質檢測兩種方法，體質檢測內容和方法按照《2010年國民體質監測工作手冊》執行，問卷調查採用2010年國家國民體質監測的老年人問卷。所有數據用SPSS13.0軟體進行統計分析。

結果：有30%的老年人參加體育鍛煉，而經常參加體育鍛煉（每週鍛煉3次及以上且每次30分鐘及以上）的老年人占25.8%；體育鍛煉參與程度與城鄉、受教育程度正相關（ $P<0.01$ ），與退休前職業、重家務勞動天數負相關（ $P<0.01$ ）；身體機能、素質指標，經常參加體育鍛煉與不參加鍛煉的老年人比較有顯著差異。

結論：老年人參加體育鍛煉的積極性較低；從鄉村到城鎮，伴隨經濟、文化水平的提高，體育鍛煉積極性上升；重家務勞動承擔越多的老年人，體育鍛煉越少；經常參加體育鍛煉的老年人體質健康狀況明顯好於不鍛煉的老年人。

關鍵字：老年人，體育鍛煉，行為，體質

Abstract

Objective: Investigate and study the behavior characteristic of physical exercises of the elderly, and the influence of physical exercises to fitness.

Measurement: 3958 persons with the age of 60~69 years old from ten cities in Zhejiang province were tested, in groups of the activities of physical exercises. Methods of tests which were strictly in accordance of manual of national physical fitness surveillance in 2010 year, and questionnaire for the elderly of the manual were adopted in this study. SPSS 13.0 software was used to analyze the statistical data.

Results: There are 30 percent of aged people participating in physical exercises. Therefore, only 25.8 percent of aged people who exercise over three times a week and over thirty minutes once time. The degree of participation in physical exercises has positive correlation with urban, rural and education. It has negative correlation with occupation before retired and days of heavy housework per week. There are significant differences between exercising and non-exercising groups of their functional and constitutional level of body.

Conclusions: The activities of the elderly participating in physical exercises are still lower. From rural to urban, with the rising of economy and culture, activities of physical exercises are increased. Those aged persons doing more heavy housework, are little in exercises. Body functional and constitutional level of aged persons taking frequently exercises are better than lack of exercise.

Keywords: the elderly, physical exercise, behavior, fitness

西方國家群眾體育狀況研究

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Western countries mass sports status of research

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群眾體育是體育工作的重要組成部分。《全民健身計畫綱要》實施以來，尤其是北京奧運會成功舉辦以來，我國群眾體育工作取得了可喜成績，人民群众的健身意識不斷增強。但是，中國群眾體育與其他體育發達國家還存在哪些差距？世界主要體育大國群眾體育的發展對我國群眾體育工作有何借鑒之處？本文通過對美國、加拿大、英國、法國、芬蘭、俄羅斯、德國、西班牙、澳大利亞、日本等10個目前世界主要發達國家的大眾體育發展現狀進行研究，尤其是對上述10個國家的群眾體育發展規劃、發展戰略，群眾體育參與情況、體育設施等進行比較研究，分析了國外主要發達國家群眾體育工作開展的成功經驗和存在的問題，為中國群眾體育發展對策的提出提供科技支撐。

一、發展政策方面

二十一世紀，隨著世界各國生活水平的不斷提高，各種由於營養過剩和缺乏運動而導致的“文明病”的發病率不斷上升，心血管疾病成為威脅人類健康的第一大殺手，因此世界各國均重視提高生活品質和人們的健康水準，紛紛制定全民健身的發展政策，這些政策和計畫的制定與實施都極大地推動了這些國家群眾體育的發展，增強了人們科學健身的意識和覺悟。如，中國為了更廣泛地開展群眾性體育活動，增強人民體質，國務院於1995年6月20日發佈《全民健身計畫綱要》。該綱要到2010年的奮鬥目標是：努力實現體育與國民經濟和社會事業的協調發展，全面提高中華民族的體質與健康水平，基本建成具有中國特色的全民健身體系。

美國提出美國“健康公民”(Healthy People)計畫。美國衛生及公共服務部會在過去10年科學研究的基礎上制定美國健康公民的十年規劃。並於2008提出體育鍛煉指南，該指南是全國性的有關身體鍛煉的綜合指南，旨在為公民成為健康的美國人提供科學的指導。此外還有美國最佳體質計畫(Physical Best Program)等。

加拿大在這方面主要於2003年，制定了《體育鍛煉與運動法案》(Physical Activity and Sport Act)，此法案代替了1961年制定的《健康與業餘體育法》，對鼓勵、促進和發展身體鍛煉和競技運動起到積極作用。此法案的一項新的政策目標就是“增加體育運動的參與”。

此外，英國、法國和俄羅斯等國也都以法律、法規的形式激勵人們參與體育鍛煉，規範了人們參加體育鍛煉的行為、責任和權利。

二、體育場館設施

體育場館設施對一個國家大眾體育活動的開展有至關重要的影響，直接關係到民眾參與體育活動的規模和效果。無論是專業訓練和比賽場館，還是學校體育設施和公共休閒體育場所都可以用於大眾的體育健身活動。從某種意義上講，按照國家人口計算體育場館的相對數可以更確定地反映國民擁有體育場館的程度，日本每10萬人擁有約167個體育場館，義大利約為260個，德國約為154個。

三、群眾體育參與狀況

體育鍛煉的頻度、持續時間、從事的體育活動和鍛煉時的運動強度均對參加體育鍛煉的效果有所影響，各國對經常參加體育活動的界定不同，因此，從學術上並不便於進行國家間的比較，但概述各國經常參加體育活動的基本狀況，可以從一個側面反映一個國家大眾體育的整體水平；瞭解經常參加體育活動的人數比例，可以瞭解一個國家大眾體育活動的開展情況，這對於科學制定大眾體育發展政策具有重要意義。

四、群眾體育活動參與特徵

雖然各國均制定了發展本國大眾體育的基本政策，但各國由於地理位置、歷史傳統、風俗習慣、現實國情、經濟和政治制度的不同，其參與體育鍛煉的基本特徵也不盡相同。通過對各國的體育發展政策、體育場館情況和群眾體育參與情況進行分析之後，一些國家的體育活動參與特徵也凸出來。例如，芬蘭和德國的群眾體育發展主要靠俱樂部形式；英國和芬蘭的體育志願者是發展大眾體育的基

石。因此，總結參與體育活動的基本特徵，可以獲得對我國大眾體育發展的有益啟示。

五、體育消費

隨著越來越多的人參加體育活動，各國在體育方面的支出近年來也呈上升趨勢。一個國家的體育消費水平也可以從一個側面反映一個國家大眾體育的參與水準。中國，從消費專案來看，用於購買運動服裝的人數比例最高，為91.0%，其他依次為購買體育器材、訂閱體育報刊和購買體育圖書、支付參加體育鍛煉的場館費用，以及觀看體育比賽費用等。由此可見，我國城鄉居民的體育消費還是以“實物型”消費為主。

美國的休閒體育產業影響較大，對美國經濟的影響是通過高爾夫球杆、網球拍、球、船和釣魚竿等體育設備、以及運動鞋和運動服裝的銷售額來實現的。美國體育用品製造商協會（SGMA）估計美國每年在體育服裝和設備方面的開銷高達500億美元。加拿大也是具有巨大體育產品消費能力的國家。加拿大的觀賞型體育產業包括職業和半職業的體育俱樂部和運動隊，以及賽馬等。2005年，高爾夫球場和俱樂部的收入是22億加元。隨著民眾健康和健身意識增加，健身和休閒活動中心的收入逐年在增加，2005年，健身和休閒活動中心的收入是16億加元。

總之，世界發達國家在其社會發展的同時，其群眾體育的發展規劃、發展戰略，群眾體育參與情況、體育設施和體育消費的發展特點和變化規律為我國的體育發展提供參考模式。

The mass sports is an important part of the sports work. "National Fitness Program" implementation, especially since been successfully held the Beijing Olympic Games, China's mass sports work has made gratifying achievements, fitness growing awareness of the masses. However, mass sports and other sports in developed countries there is a gap? What learn from the world's leading sporting nation of mass sports development of mass sports work? Study of 10 United States, Canada, Britain, France, Finland, Russia, Germany, Spain, Australia, Japan, the world's major developed countries in mass sports development status, especially in the 10 countries of the masses of sports development planning development strategy, mass participation in sports, sports facilities and other comparative studies, analysis of successful experiences and problems in the major

developed countries abroad carried out by the mass sports, scientific and technological support for the development of mass sports countermeasures.

First, the development policies

Twenty-first century, with the countries in the world living standards constantly improve, the incidence of “diseases of civilization” caused by a variety of nutrition and lack of exercise is rising, the number one killer of cardiovascular disease as a threat to human health, so the world the importance of improving the quality of life and people’s health level, have developed national fitness development policies, the formulation and implementation of these policies and programs have greatly promoted the development of mass sports in these countries, and enhance the awareness and consciousness of the people to science and fitness . For example, in order to more widely and promotes mass sports activities to improve the people’s physique, the State Council released on June 20, 1995 “National Fitness Program. The Framework 2010 goals are: to achieve a coordinated development of the sport and the national economy and social undertakings, and comprehensively improve the physique and health level of the Chinese nation, the basic completion of the national fitness system with Chinese characteristics.

United States United States, “healthy citizens” (Healthy People) plan. U.S. Department of Health and Human Services will be developed on the basis of scientific research in the past 10 years, the decade of the health of citizens in the United States. And physical exercise guidelines in 2008, the guide is a comprehensive guide to national physical exercise, healthy Americans to become citizens to provide scientific guidance. There is also the best physical plan (Physical Best Program).

Canada in 2003 in this regard, the development of physical exercise and sports Act “(Physical Activity and Sport Act), this bill instead, enacted in 1961,” Health and Amateur Sports Act, to encourage, promote and develop physical activity and competitive sports play a positive role. A new policy objectives of this Act is to increase sports participation.

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In addition, Britain, France and Russia and other countries are also the form of laws and regulations to inspire people to participate in physical exercise, regulate behavior, responsibilities and rights of people to participate in physical exercise.

Second, sports venues and facilities

Sports facilities have a critical influence on a national mass sports activities to carry out, directly related to public participation in the scale and effects of sports activities. Professional training and competition venues, the school sports facilities and public recreation sports venues can be used for public sports and fitness activities. In a sense, can be more certain to reflect the extent of the citizens have stadiums in accordance with the national population, the relative number of sports venues, 10 per million in Japan has about 167 stadiums, Italy, about 260, Germany is about 154 a.

Third, mass sports participation status

Physical exercise frequency, duration, engaged in sports activities and exercise when exercise intensity of the effect of physical exercise have an impact on the countries on the definition of regular physical activity, therefore, not from the academic to facilitate national inter-comparison, but an overview of countries regularly participate in the basic conditions for sports activities, a reflection of the overall level of a national mass sports; the proportion of regular physical activity, can learn about a national mass sports activities, which The scientific development of mass sports development policy significance.

Fourth, mass sports activities to participate in the characteristics

While countries have formulated a basic policy for the development of national mass sports, but countries due to differences in geography, history, traditions, customs, current conditions, economic and political system, the basic characteristics of their participation in physical exercise are not the same. After the national sports development policy, stadiums and mass sports participation were analyzed, the characteristics of sports participation of some countries protruding. For example, the development of mass sports in Finland and Germany, mainly in the form on the club; sports volunteers in England and Finland is the cornerstone of the development of mass sports. So, to summarize the basic characteristics of participation in sports, can get useful insights of the development of mass sports in China.

Fifth, sports consumption

As more and more people to participate in sports activities, the national expenditure in sports in recent years also on the rise. A country's sports consumption level can also be a

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reflection of the level of a national mass participation in sports. Project from the consumer point of view, for the purchase of sports apparel highest proportion of 91.0%, followed by the purchase of sports equipment, subscription sports newspapers, and the purchase of sports books, pay the costs of venues to participate in physical exercise, as well as watching sports competitions costs and so on. Thus, the consumption of urban and rural residents in China's sports or "in kind" consumption-based.

Leisure and sports industry in the United States a greater impact on the U.S. economy is achieved through the golf clubs, tennis rackets, balls, boats and fishing rods, sports equipment, sports shoes and sports apparel sales. U.S. Sporting Goods Manufacturers Association (SGMA) estimates that the United States each year in the sports clothing and equipment overhead as high as \$ 50 billion. Canada is also the country of the spending power of the great sports products. Viewing sports industry in Canada, including vocational and semi-professional sports clubs and sports teams, as well as horse racing. In 2005, the golf course and club revenue is \$ 2.2 billion. With the increase of people's health and fitness awareness, fitness and leisure center income year after year in 2005, fitness and leisure center income was \$ 1.6 billion.

In short, the world's developed countries in their social development, while the mass sports development planning, development strategy, mass sports participation, sports facilities and sports consumption characteristics of the development and variation to provide a material reference model for the development of sport in China.

我國居民每天家務勞動時間分析

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Our Residents Daily Housework Time

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摘要

研究目的：

本研究選取“中國國民體力活動和體育鍛煉能量消耗常模的建立課題”中選擇上述五類家務勞動的受試者為研究對象，從家務勞動的時間、受試者受教育水準、受試者職業、婚姻狀況、工作時間、工作類型等方面進行比較分析。探討我國居民家務勞動特徵，試圖探索、分析、歸納出我國居民每天家務勞動的特徵。

研究方法：

選取“中國國民體力活動和體育鍛煉能量消耗常模的建立課題”數據庫中體力活動調查問卷的家務活動部分進行分離建立子數據庫，採用SPSS11.5軟體對數據採用相關性分析每天家務勞動時間和問卷中婚姻狀況等7個選項，最後選取線性相關較高的婚姻狀況、受教育程度、工作狀況三個選項作為研究突破點，並對各指標資料進行描述性統計、獨立樣本T核對總和單因素方差分析等方法進行分析。

研究結論：

1. 我國居民平均每天家務時間為57.9分鐘，男性每天平均做家務時間為47.8分鐘，女性為65.3分鐘，女性家務勞動時間約是男性的1.4倍，並且性別間差異具有顯著性，（ $P < 0.01$ ）。
2. 已婚和結過婚的人群與未婚人群每天家務勞動時間存在顯著性差異，表現為未婚人群每天家務勞動時間遠少於已婚和結過婚的人群。
3. 婚姻狀況為未婚和喪偶的人群每天家務時間不同性別之間基本相同，婚姻

狀況為有配偶和離婚的人群每天家務時間女性明顯高於男性。

4. 每天家務時間總體表現為隨受教育程度的增長而逐漸減少。不同性別來看，男性基本維持在一較低水平，而女性隨受教育程度的增長而每天家務時間逐漸減少趨勢更為明顯。

5. 工作人群比不工作人群每天家務勞動時間要短，而工作人群中工作8小時以下人群家務勞動時間最長，其次為工作10小時以上人群。

Abstract

Objective: This study selected the Chinese national physical activity and physical exercise energy expenditure the Norm topics, select the above five categories of household labor subjects for the study, from the time of the housework, the subjects educational level, the subjects occupation, marital status, working hours, type of work is a comparative analysis. Explore the characteristics of our country residents housework, trying to explore, analyze, and summarize the characteristics of our residents every day household chores.

Research Methods: Select national physical activity and physical exercise energy consumption norm establishment of topics in the database, the domestic activities of the physical activity questionnaire part of the separation of the establishment of sub-database, using SPSS11.5 software data using correlation analysis of daily housework time and marital status, and seven options in the questionnaire, and finally select linearly related to higher marital status, educational level, the working conditions of the three options as a research breakthrough point, and indicator data for descriptive statistics, independent sample T-test and the method of single factor analysis of variance.

Conclusions:

1. China resident average daily housework time of 57.9 minutes average per day for men to do housework time was 47.8 minutes, 65.3 minutes for women, female housework time is about 1.4 times that of men, and the gender difference was significant ($P < 0.01$).
2. The two married and married people and unmarried people daily housework time there are significant differences, the performance of daily housework for unmarried people is much less than married and married people.

3. Marital status for the unmarried and widowed population daily housework time is basically the same between different gender, marital status, spouse and divorce crowd daily housework time women higher than men.
4. Daily housework time overall performance with the educational level of growth and gradually reduce. Different gender, the male basic maintenance at a lower level, while women with more obvious by the trend of the growth of educational attainment, the daily housework time is gradually reduced.
5. Working population does not work crowd daily housework time is shorter, while the working population working less than eight hours crowd housework longest, followed by the crowd for more than 10 hours.

蘇北地區農村全民健身現狀的調查及對策研究

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The investigation and Countermeasures of nationwide fitness in north Jiangsu

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摘要

研究目的：運用問卷調查，數理統計等方法，對蘇北地區農村全民健身現狀進行調查，發現存在組織管理機構不健全、群眾的健身意識淡薄、政府投入相對較少、健身場地設施普遍較差、社會體育指導員缺乏等問題。通過對這些問題的分析，提出了健全全民健身組織管理機構、加大輿論宣傳力度、加強社會體育指導員隊伍建設、加快建立和完善農村體育組織網路、加強農村體育健身市場開發等一系列解決辦法。

研究方法：

1. 問卷調查法：採用隨機的方法對上述五個地區的居民發放問卷2000份，回收問卷1897份，其中有效問卷1767份，有效率為88.4%，在問卷發放的過程中，基本考慮到被調查者的年齡和性別分佈，在回收的問卷中，參與體育鍛煉的人有832人，占總人數的47.1%。

2. 文獻資料法：通過校園網和圖書館查閱了相關學術論文和全民健身方面的資料。

3. 訪談法：在五個市的體育局群體處有關人員的協助下，查閱了本地區全民健身活動的組織機構，經費投入和社會體育指導員等方面的確切資料，且與部分有經驗的負責同志進行了座談。

4. 數理統計法：將調查所得的資料採用Microsoft office excel軟體進行了統計處理。

研究結果：發現存在組織管理機構不健全、群眾的健身意識淡薄、政府投入相對較少、健身場地設施普遍較差、社會體育指導員缺乏等問題。

研究結論：健全全民健身組織管理機構、加大輿論宣傳力度、加強社會體育指導員隊伍建設、加快建立和完善農村體育組織網路、加強農村體育健身市場開發等。

關鍵字：全民健身，蘇北地區，現狀，對策

Abstract

Using a questionnaire survey, mathematical statistics to investigate the actuality of civil sport in north Jiangsu Province .Make the problems clear that the management and organizations are distempered, the athletic sense of clamjamfry is weak , the relatively investment of the government is lack, the facilities of athletics field is generally poor, the social sports instructors are lack. Based on the analysis of these issues, bring forward the solutions that make the management and organizations more healthiness, raise public drumbeating, , strengthen social sports Instructor construction, speed up the construction and improvement of sports network, strengthen rural sports market exploitation.

Keywords: nationwide fitness, north Jiangsu Province, situation, countermeasure

關於40~59歲成年人體力活動總量、生活方式對體質水平影響的探討

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The Impact of total physical activity, lifestyle on the constitution of adults aged from 40 to 59

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摘要

目的：研究40-59歲成年人體力活動總量、生活方式對體質水平的影響。

方法：2010國民體質監測；數理統計法。

結果：

1. 各因數對成年人體質水平影響大小依次為：受教育程度、主觀體質狀況、吃早餐狀況、主要工作場所、主觀壓力感、工作單位性質、體力活動總量、食品食用情況、居住地是否有體育設施、居住地離工作場所距離、熬夜情況；

2. 體力活動總量與成年人臺階指數呈顯著正相關 ($p < 0.01$)；

3. 受教育程度與成年人形態、素質及機能指標中的（肺活量/體重）均呈顯著正相關 ($p < 0.01$ 或 $p < 0.05$)，與機能指標中的臺階指數呈顯著負相關 ($p < 0.01$)；

4. 主觀壓力感對成年人體質得分、素質得分、臺階指數、（肺活量/體重）有明顯影響，進一步兩兩比較發現：除形態指標外，經常有壓力感的成年人體質的各個方面優於壓力感很大或者壓力感小的 ($p < 0.05$)。

結論：對40-59歲的成年人

1. 體力活動總量及受教育程度、早餐狀況、主要工作場所、主觀壓力感、居住地是否有體育設施等是影響體質水平的主要原因；

2. 居住處有體育場地或設施對提高體質水平有明顯幫助；

3. 體力活動總量越大，以臺階運動為代表的有氧運動能力越強；
4. 受教育程度越高，體質水平越高；
5. 適度壓力感對體質有益。

關鍵字：體質監測，體力活動總量，生活方式，中年人

Abstract

Purpose: Study the Impact of total physical activity, lifestyle on the constitution of adults aged 40-59.

Result:

1. The significance order of Impact of each factor on the constitution level: level of education, subjective physical condition, breakfast habit, main workplace, the subjective feeling of pressure, the nature of the work unit, the total physical activity, food consumption, the place of residence has or has not sports facilities, distance between residence and workplace, staying up habit;
2. Total physical activity and step index are significantly correlated ($p < 0.01$);
3. Level of education is significantly positive correlated with adult shape, sport quality and vital capacity/weight ($p < 0.01$ or $p < 0.05$), while it is significantly negatively correlated with step index($p < 0.01$);
4. Subjective feeling of pressure has a significant effect on adult constitution score, sport quality score, step index, vital capacity/weight, further pairwise comparison find that: except morphological indicators, adults often have a sense of pressure is superior on all aspects of constitution to those who under the great pressure or under the minor pressure ($p < 0.05$).

Conclusion:

For adults aged 40-59:

1. Total physical activity and level of education, breakfast habit, main workplace, subjective feeling of pressure, the place of residence has or has not sports facilities

are the main reasons affecting the level of constitution;

2. Living near the sports venues or facilities significantly helps the level of constitution;
3. The greater the amount of total physical activity ,the stronger is the aerobic exercise capacity as the representative of step movement;
4. The higher the level of education, the higher is the level of constitution;
5. Moderate pressure is beneficial for constitution.

Keyword: constitution monitoring, total physical activity, lifestyle, middle-aged

湖北省成年人體質與常見疾病調查分析

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Investigate into physical fitness testing and common diseases of the adult in Hubei Province

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摘要

目的：瞭解湖北省2010年的城鄉成年人不同性別、年齡的體質狀況及其常見疾病，為制定相應的、有效的預防措施提供依據。

方法：分析湖北省2010年國民體質監測調查問卷中的部分專案和數據，專案是患有的常見疾病如高血壓、高血脂、糖尿病、冠心病、消化性潰瘍、骨關節疾病、頸椎病等；數據來源於湖北省2010年國民體質監測成年組38,038人數據；體質狀況由國家國民體質監測中心制定的評價方法，按等級合併劃分為不合格、合格、良好以上三個評價類別；統計分析使用SPSS13.0軟體進行卡方檢驗。

結果：成年男性人群體質良好以上、合格、不合格的分別占47%、44%、9%；成年女性則分別為43%、47%、10%；成年人群中常見疾病的檢出率依次為頸椎病12.99%、骨關節疾病6.09%、高血壓5.86%、消化性潰瘍3.98%、高血脂3.81%、糖尿病1.20%、冠心病0.87%；成年人體質與高血壓的檢出率有一定對應變化關係，體質越好，高血壓檢出率就越低，男女、城鄉、不同年齡段檢出率變化趨勢均一致；頸椎病則相反，體質越好，頸椎病檢出率越高，且城鎮高於鄉村、女性高於男性、40-59歲高於20-39歲人群。

結論：隨著年齡的增加，成年人各種疾病的發病風險顯著增加，但是通過改善體質狀況有顯著降低高血壓、高血脂、糖尿病等疾病發病風險的可能。

關鍵字：成年人，體質，疾病，調查

Abstract

Objective: To explore the physical conditions and common diseases of adults of different genders and ages in Hubei Province in 2010, to provide the basis for making the appropriate and effective preventive measures.

Methods: We have analyzed the part of the project and data in the national physique monitoring questionnaire of Hubei Province in 2010. The project are the common diseases such as hypertension, high cholesterol, diabetes, coronary heart disease, peptic ulcer, bone and joint disease, cervical disease; The data are from 38,038 adult people's physique monitoring data of Hubei Province in 2010; Method of assessing the physical conditions of the national constitution is making by the National Monitoring Center, classifying three evaluation categories of unqualified, qualified and good; Statistical analysis uses chi-square test SPSS13.0 software.

Result: Adult male population which physical health good, qualified and the unqualified was respectively for 47%, 44%, 9%, Adult women were 43%, 47%, 10%, Disease detection rate of adults common were in order as cervical spondylosis accounted for 12.99%, Joint disease 6.09%, hypertension 5.86%, peptic ulcer 3.98%, hyperlipidemia 3.81%, diabetes mellitus 1.20%, coronary disease 0.87%. Adults' physical health and high blood pressure detection rate have certain corresponding change relations, The better physical health, the less hypertension detection rate. Men and women, urban and rural, different age paragraph the detection rate change trend are consistent. The incidence of cervical spondylosis is opposite, cervical vertebra disease detection rate who Physical health good people is high, Town incidence rates higher than the country, women than men, 40-59 years old above 20-39 crowd.

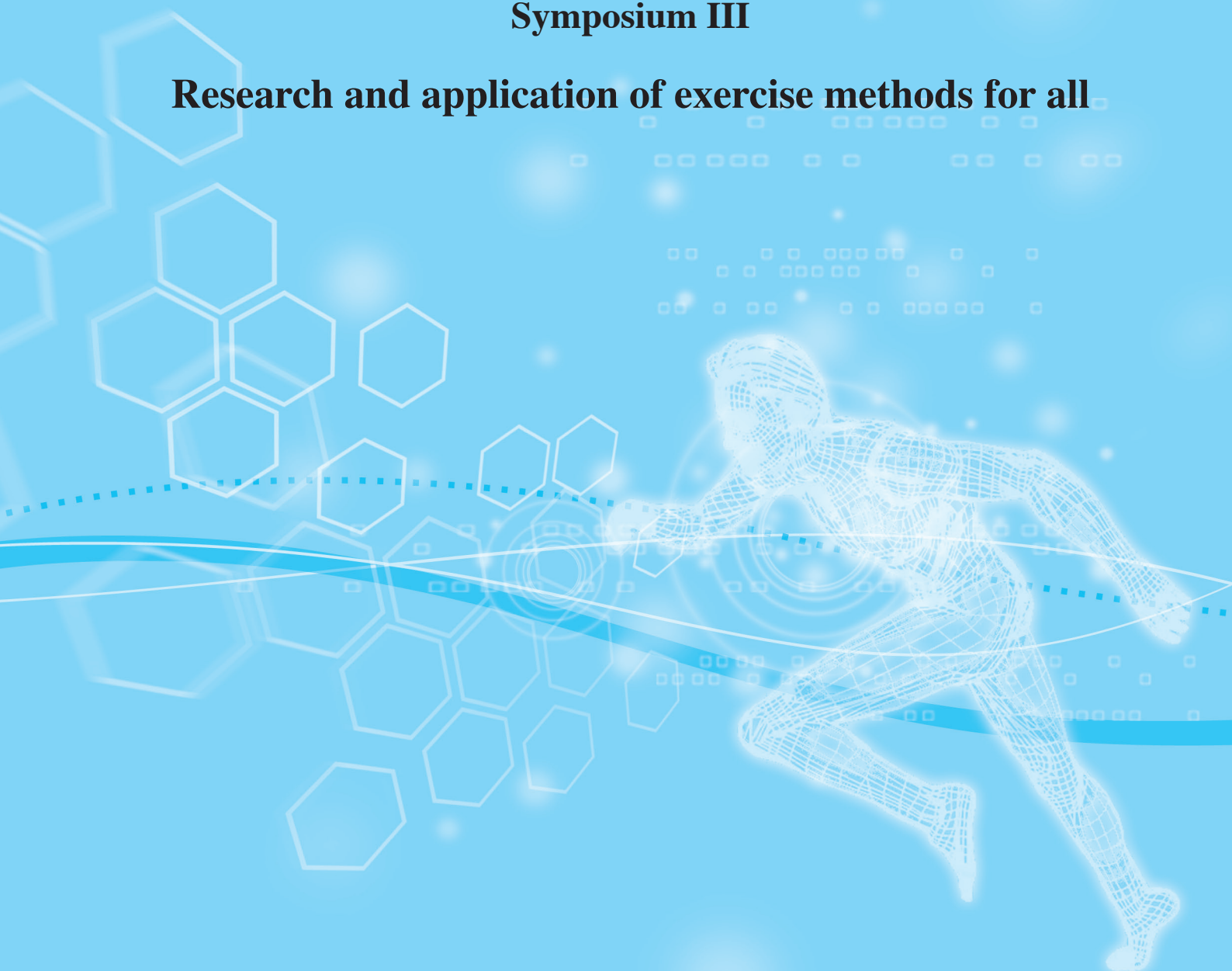
Conclusion: Along with the increase of age, adults risk for various diseases increased significantly, but Improve physical health conditions have significantly reduce high blood pressure, high cholesterol, diabetes risk of disease.

Keywords: Adult, Physical fitness test, Disease, Investigate

專題報告 III
大眾健身方法研究與應用

Symposium III

Research and application of exercise methods for all



自控鍛煉對術後康復期惡性腫瘤患者紅細胞CD35和CD58表達的影響

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Effect of Self-Control Exercise on expression of erythrocyte CD35 and CD58 in malignant tumor patients during rehabilitation after surgery

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摘要

研究目的：惡性腫瘤患者紅細胞CD35分子數量顯著低於正常人，且CD35的下降程度與腫瘤的生長和轉移密切相關。適量身體活動能夠改善機體紅細胞免疫粘附功能，但是對術後康復期惡性腫瘤患者機體紅細胞發揮免疫作用的物質基礎-CD35、CD58有何影響？不同類型惡性腫瘤患者紅細胞免疫對鍛煉的反應是否一致尚不清楚。本研究以自控鍛煉為輔助干預手段，對康復期惡性腫瘤患者進行跟蹤觀察，探討長期堅持自控鍛煉對惡性腫瘤患者紅細胞CD35和CD58表達的影響，為康復期惡性腫瘤患者進行康復鍛煉提供理論依據和科學指導。

研究方法：選取上海市癌症康復學校學員40名，其中男性17名（42歲~71歲）；女性23名（48歲~66歲），平均癌齡為 1.50 ± 0.77 年。病種為乳腺癌17例，消化系統癌14例，其他類型惡性腫瘤患者9例（卵巢癌2例、肺癌3例、甲狀腺癌2例等）。受試者手術結束結合放、化療常規治療後，在專門人員指導下，先進行3周自控鍛煉學習，然後進行24周自控鍛煉，每天鍛煉時間平均為2小時，每週鍛煉頻率平均為5天。于試驗第0周、12周、24周採用流式細胞儀方法測定

患者外周血紅細胞CD35、CD58平均螢光強度，並對試驗各階段患者紅細胞CD35、CD58進行相關性分析。

研究結果：

1. 與試驗第0周比較，第12周患者紅細胞CD35明顯升高 ($P < 0.01$)；第24周較第12周表現為明顯下降 ($P < 0.01$)，但仍顯著高於試驗第0周 ($P < 0.01$)。
2. 試驗第12周紅細胞CD58較第0周顯著下降 ($P < 0.01$)；第24周明顯高於試驗第12周 ($P < 0.01$)，與試驗第0周無明顯差異 ($P > 0.05$)。
3. 試驗第0周，乳腺癌患者紅細胞CD35明顯低於消化系統癌和其他類型惡性腫瘤患者 ($P < 0.01$, $P < 0.01$)，試驗第12周、24周不同類型惡性腫瘤紅細胞CD35均無明顯差異 ($P > 0.05$)。
4. 試驗第0周、12周，惡性腫瘤患者紅細胞CD35、CD58之間無明顯相關性，試驗第24週二者存在明顯正相關關係 ($r = 0.400$, $P < 0.05$)。

研究結論：

1. 長期自控鍛煉能夠提高術後康復期惡性腫瘤患者紅細胞CD35分子表達，為紅細胞發揮其免疫粘附功能提供了免疫基礎；對紅細胞CD58表達無明顯影響。
2. 不同類型惡性腫瘤患者紅細胞CD35數量存在顯著差異，自控鍛煉能夠改善這種差異程度。
3. 長期自控鍛煉有助於紅細胞免疫粘附功能和免疫促進功能的相互協調作用。

關鍵字：自控鍛煉，惡性腫瘤，術後康復期，紅細胞免疫

Abstract

Background: Erythrocyte CD35 is considered to be in a lower level in malignant tumor patients. Regular physical activity could improve erythrocyte immune function, however, how it influences proteins on erythrocyte membrane such as CD35 and CD58- is unclear.

Objective: To make out the effect of Self-Control Exercise on the expression of erythrocyte CD35 and CD58 in malignant tumor patients during rehabilitation.

Methods: 40 new malignant tumor patients were recruited from Shanghai Cancer Club. Of them there were 17 men (aged from 42 to 71) and 23 women (aged from 48 to 66). The average cancer age was 1.50 ± 0.77 , the type of tumors included breast, digestive system and others (including ovary cancer, lung cancer, thyroid gland cancer, sarcoma, and prostate cancer). All the patients were diagnosed pathologically and were treated with surgery. They all signed their names on informed consents and learned Self-Control Exercise under the guide of expertise for 3 weeks. Then they performed 24-week moderate intensive training program of Self-Control Exercise with about 2 hours per day and 5 days per week. The main outcomes of CD35 and CD58 were examined before, during and after experiment (0, 12th, 24th week) by Flow Cytometry.

Results:

1. CD35 increased significantly at the 12th week and the 24th week respectively ($P < 0.01$, $P < 0.01$), though it decreased significantly in the 24th week than in the 12th ($P < 0.01$).
2. Erythrocyte CD58 decreased significantly at the 12th week ($P < 0.01$), and recovered to before experiment ($P > 0.05$).
3. Before experiment, Erythrocyte CD35 in breast tumor patients was higher than digest tumors or the other ones ($P < 0.01$, $P < 0.01$); there were no significantly difference between any types of tumors at the 12th and 24th week ($P > 0.05$).
4. Erythrocyte CD35 was associated with CD58 positively in the 24th week ($r = 0.400$, $P < 0.05$), however, there was no correlation between them either before experiment or at the 12th week.

Conclusion:

1. Regular Self-Control Exercise could improve the expression of erythrocyte CD35 in malignant tumor patients, it had no effect on erythrocyte CD58.
2. Erythrocyte CD35 varies in different type of malignant tumor patients, regular Self-Control Exercise could shrink the difference between them.
3. Regular Self-Control Exercise could improve the correlation between erythrocyte CD35 and CD58.

Keywords: Self-Control Exercise, malignant tumor, rehabilitation after surgery, erythrocyte immunity

中國人步行的頻率、能耗以及達到“國際身體活動標準”的步行鍛煉建議

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Step rate-determined walking intensity and walking recommendation in Chinese adults

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研究背景：步行是人類最基本、最重要的一項身體活動。步行運動對於體重的控制、體質的增強、疾病的防治作用已在大量科學研究中廣泛證實。那麼，如何進行步行鍛煉才是科學有效的方法？一直以來是國內外研究學者不斷探索的重要命題。

2008年美國衛生部提出了“身體活動指南”(Physical Activity Guidelines)，該指南的建立有著充分的理論依據和科學數據支援（基於大量的運動健康效益的Dose-response分析），是目前最新、最權威的活動指南。指南的核心內容是確保每週至少有150分鐘的中等以上強度運動。這樣一個寬泛的指導建議在步行健身活動中如何應用將成為一個很有趣的研究方向。走多快算是中等強度運動？走多少步，多少公里，多少時間符合鍛煉要求？這些命題的回答需要科學數據支援。

對步行能耗等生理參數的準確測量是建立步行活動指南的基礎。儘管步行能耗的測量研究已經開展很多，但是由於多數研究工作開展於上個世紀，所用儀器效度較差，樣本量小，測量場所多固定在實驗室跑臺上，而不是真實的現場環境，故這樣的數據與現今實際情況出入較大。此外，任何身體活動的生理反應都

依賴於受試者的生物性特徵，比如種族、身高、體重、性別年齡等。雖然以西方人為研究對象的步行數據已有大量報導，但是關於中國人步行能耗特徵的研究開展很少，特別是依據大樣本人群、採用高精度的能量測量工具採集的數據未見報道。

步行速度固然是影響能耗水平的最重要因素，但不是唯一因素。因為在同一速度下，人們可以通過步頻和步幅的變換，有不同的步行方式，進而可能帶來能量消耗上的變化。另外，在步行運動的健身指導活動中，相對於“步行速度”，“步行頻率”更方便描述百姓步行活動特徵，易於被百姓理解掌握。所以，用步頻界定運動強度，指導步行健身活動有著重要的實踐價值。

研究目的：

1. 測量、評價中國人場地步行時不同步行強度下的步頻、能耗特徵。
2. 建立達到中等強度運動和大強度運動的步頻界值（cut point）。
3. 探討滿足PA指南要求的中國人步行鍛煉方法。

研究方法：117名男性，109名女性，年齡20-30歲，在平坦室內場地上完成步行測試，場地面積15×10米（周長為50米）的長方形場地一塊，每5米間隔放置一個標誌物，測試時受試者需沿著場地標誌物外側緣行走。步行測試共有4個速度，從低到高依次為3.8km/h，4.8 km/h、5.6km、6.4km/h。每個速度6分鐘。測試時現場播放音頻，音頻設置為4.74秒、3.75秒、3.55秒、2.81秒出現提示音一次（即每5米間隔響一次），此時受試者需從第一個標誌物移動至下一個標誌物，受試者目視前方，以自然步態保持勻速行走。在步行測試時用Cortex MetaMax 3B metabolic analyzer和Pallor心率表採集受試者的生理數據。步頻的記錄方法，在測試現場測試人員觀察記錄受試者的步頻，在每級速度測試的第4和第5分鐘（在第3分鐘以後，受試者進入勻速步行狀態。），記錄下每分鐘的步頻（steps·min⁻¹），每個速度記錄兩次，取平均值。

步行METs值的計算，每級步行速度穩態時的VO₂除以3.5ml·kg⁻¹·min⁻¹

研究結果：

1. 步行3.8km/h到6.4km/h，心率從85次/分到126次/分、攝氧量從10ml·kg⁻¹·min⁻¹到19ml·kg⁻¹·min⁻¹。相同速度下男性的心率和VO₂顯著高於女性。當用調整了體重後，男女之間的VO₂和能耗沒有顯著差異。

2. 同一速度下，不同人的步行頻率有個體差別，步頻越快，能耗越高。但是相同速度時步頻與能耗的關聯程度不高 ($r < 0.3$)。隨著步行速度加快，受試者步頻相應增加，步頻與 VO_2 和METs的相關程度較高 ($r > 0.6$)。構建步頻與METs之間的回歸方程 $Y = -1.182 + 0.056 \times \text{步頻} - 0.258 \times \text{性別}$ ($R^2 = 0.451$)

3. 用Receiver operator characteristic curves Method(ROC)統計分析法，建立以中等強度 (METs ≥ 3) 和大強度 (METs ≥ 6) 參考標準的步頻切點。達到中等強度的最低步頻，男性104步/分，女性107步/分，平均105步/分；達到大強度運動的最低步頻，男性120步/分，女性130步/分，平均125步/分。

4. 為了達到“身體活動指南”運動量要求，中國成年人每天在日常活動基礎之上至少要有頻率 ≥ 105 步/分的步行健身活動30分鐘，相當於健步走3000步，步行距離2公里，消耗的能量約 $1.5 \text{ kcal} \cdot \text{kg}^{-1}$ 。

Introduction: Walking is a natural activity of human beings. It has positive effect on energy expenditure (EE), weight control, and cardio-respiratory fitness among other health benefits. It has been recommended that all adults perform at least 30 min of moderate-intensity aerobic activity 5 d each week as a method to achieve health benefits of exercise, and physical activity of greater intensity or of longer duration can promote additional benefits to performance and health. Obviously it is a valuable and interested research area of how to implement the guideline into practical walking activities.

Some steps-based walking recommendations were developed by researchers. The most widely recognized step recommendation is to accumulate 10,000 steps per day. But, the goal of 10,000 steps per day is based on limited evidence, may be unrealistic for many people. It has no evidence of activity intensity incorporation either. Intensity is an important index of physical activity recommendations due to health benefits are depending on the intensity of activity.

A well-defined walking activities recommendation will be established on the accurate measurements on walking Energy Expenditure (EE). Even though there were studies and measurements conducted in the areas of walking EE, but most of them were initiated during last century. The data collected might differ from real condition due to instrument ineffective, limited sample size, and on lab-controlled settings. Additionally, physiological

responses of any activity depend on other characters of the subject, like race, height, weight, gender, age etc. Although the majority of walking EE studies were done focusing on Western population, rarely seen of Chinese, especially no study was done based on mass population, using more accurate instrument and advanced method.

Although the walking speed is one important factor to influence the walking EE, but not the only one. The different level of walking EE can be reached by changing the step frequency (SF) and stride under the same walking speed. Besides, it is easier to be applied by public as one intensity variable for the walking guideline, rather than walking speed. More specific, if walking time and step numbers are known, intensity might be obtained under certain specific cut-off-points (steps/min) that represent meaningful intensity categories. Therefore, using SF to identify the walking intensity has significant and applicable value while the guidelines are implemented.

The purposes of this study :

1. To measure and assess the physiological response of walking on a field at different intensities in Chinese young adult.
2. To identify step frequency cut-off-point relating to moderate and vigorous intensity for the same sample, and translate PA guidelines into walking exercise recommendation for China adults

Methods:

A community sample of 226 Chinese adults (117 men, 109 women) with a mean age of 21.7 (± 0.2) years, volunteered to participate in the study. A area of 15m \times 10m rectangular field (circumference of 50m) was measured and marked. Markers were placed on the edges (4 sides) of the field with 5m apart. The markers were used as tracking indicators while the subjects were walking along the edges outside of the rectangular area. Subjects is required to perform 4 walking tests at different walking speeds, from low to high at 3.8km/h, 4.8 km/h, 5.6 km, and 6.4 km/h with test time of 6 minutes of each. Subjects was required to take 10 minutes rest before the test, and 5 minutes rest between each test. During the test, an audio playing at the frequency of 4.74s, 3.75s, 3.55s, and 2.81s (ie. played every 5 m in distance) is used to regulate the subjects' walking speed.

Record the step frequency: It is tester' responsibility to measure the step frequency for subjects.

EE during walking on a field was obtained by indirect calorimeter (with simultaneous HR monitoring). METs were calculated by dividing steady-state VO_2 by $3.5\text{ml}\cdot\text{ml}^{-1}\cdot\text{kg}^{-1}$. Moderate intensity is defined as 3.00–5.99 METs, while vigorous intensity for 6.00–8.99 METs.

Results:

1. VO_2 increased from 10 to 20 $\text{mL}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ during walking in four speeds. Average heart rate increased from 85 to 126 $\cdot\text{min}^{-1}$. The heart rate and VO_2 ($\text{L}\cdot\text{min}^{-1}$) of men was significantly higher ($P<0.05$) than the values of women at the same speed of walking. When VO_2 was adjusted for body mass, the gender effect disappeared. No significant differences were found in VO_2 per kg between genders.
2. The step frequency increased while the walking speed increased from 3.8 km/h to 6.4 km/h, and has higher correlation with VO_2 (Pearson Correlation $r=0.73$). The EE can be predicted by multiple equation based on the independent variable of 'step frequency'. The model with Step frequency as the independent variable was $\text{METs} = -1.182 + 0.056\text{SF} - 0.258\text{Gender}$. ($R^2 = 0.451$, $\text{SEE} = 0.67$).
3. By Using Receiver operator characteristic curves Method (ROC) to set up SF cut point, and according to 3METs and 6 METs identified with MPA and VPA, this yielded Step-frequency cut-points of 105 for MPA and 130 for VPA. The difference exists on the cut-off point between male and female.
4. In order to meet PA guidelines for Chinese adult, walking 30 minutes with SF 105 steps/min, or 3100 steps or 2 kilometers with the same SF daily is suggested by this study. It becomes vigorous intensity of PA if 130 steps/min is reached, which will benefit the health more.

普通男性青年跑節省化 (RE) 測試負荷建立的實驗研究

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Experimental Study on the Running Economy (RE) Test Load of General Youth Male

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摘要

研究目的：Astrand於1961年提出了跑節省化 (Running Economy, RE) 是“亞極限負荷下處於穩定狀態時的氧耗水平”的概念。近年國內外研究結果大都顯示：傑出耐力群體的能力改善更多地依賴于RE水平變化，而非 VO_{2max} 改善；即使是普通人群的RE在表達有氧能力和其訓練可塑性方面較之 VO_{2max} 仍有更高的貢獻率。由此80年代末期至今，國際上已將表達耐力表型的關注點轉移到跑節省化，並公認RE是描述亞極限強度下氧利用能力的理想指標。

但是，跑節省化 (RE) 測試方法的研究滯後，使RE難以在體質評價領域廣泛應用，其核心癥結是測試負荷的莫衷一是。鑒於理論依據和研究方法的差異，目前RE測試不僅在測試數量上有一次負荷、兩次負荷和三次負荷的差別，而且在負荷強度上也存在著較大爭議。Krahenbuhl在1992提出了“適宜的極限下負荷速

度”的概念，認為應根據受試的不同而選擇不同的負荷標準。因此，解決RE測試方法的核心問題是建立RE的負荷強度標準。以便對國民體質耐力水平的確定提供更有效、更安全和更便捷的評價手段。

區別於以往多點負荷測試方案，本研究試圖通過曲線擬合等獨特的研究手段，推導出單一的適宜的RE負荷跑速，建立RE測試的有效方法。

研究方法：選擇63名受試士兵（未有耐力訓練和勞作的優勢，年齡： 20.5 ± 1.5 ；身高： 172.9 ± 5.7 ；體重： 65.2 ± 9.2 ），測定其中37名士兵的55%、60%、65%和70% VO_{2max} 時的RE；應用 R^2 判定係數法對RE與5km跑成績線性關係進行判斷，尋找最佳擬合優度，確定最適宜的RE位置；以5km跑成績作為效標，以RE與5km跑成績得出的4個相關係數為基礎進行曲線擬合，以進一步驗證適宜的負荷跑速。選擇另外26名士兵對適宜的負荷跑速進行有效性檢驗。

研究結果：將RE各值與5km跑成績的相關係數 r 結果進行比較後發現，R-RE（相對值）與5km跑成績的 r 高於A-RE（絕對值）和C-RE（修正值）水平，因此本研究選擇R-RE作為RE的標準單位；R-RE₃的 R^2 判定係數值以及F值均最高，故RE₃所對應曲線最能體現RE與5km跑成績之間的關係，即RE₃時的11.5km/h跑速應為適宜負荷；經過對成績相關係數 r 與C-RE的曲線擬合方法驗證，11.5km/h跑速確為適宜負荷；有效性試驗顯示R-RE同5km跑成績的相關為 $r = 0.729$ 。

研究結論：對我國普通男性青年而言，11.5m/h的跑速為測定RE的適宜負荷（此負荷約為67.2%的 VO_{2max} ，血乳酸在 3.59 ± 0.65 mmol/L水平），並以ml/kg/min（相對值）反映RE的測試結果最適宜；有效性檢驗顯示，11.5m/h的速度下測定的RE結果具有理想的代表性。

關鍵字：跑節省化，最大攝氧量，適宜負荷

Abstract

Objective: It's an essential way by strengthening military training to effectively promote army battle. Evaluating the training effect is very important, directly relating the formulation of the next step training plan, influencing the training effect. If can't evaluate the training effect, formulating the training plan scientifically, not only the physical ability quality can't obtain the enhancement, even bring such as damages and so on to the soldier. Therefore, it is imperative that the evaluative method scientifically, accurately, effectively,

easy and feasible is introduced.

This paper attempts to evaluate the endurance ability accurately, especially distinguished endurance that has attracted the most attention of and perplexed scholars. Classics studies have demonstrated that correlation between VO_{2max} and performance in running events is very closing. Therefore, VO_{2max} has been regarded as the first index of oxygen capability by the physiologist of Exercise Physiology for a long time. However, since 1980's, more and more experiment fruits and real conditions question the authority that VO_{2max} means distinguished endurance. Since the end of 1980's, the attention of expressing the distinguished endurance has already transferred to running economy internationally (Running economy, RE for short). Running economy is considered to be the steady-state oxygen consumption (ml/kg/min) for a standardized running speed. The initial achievement of RE study gives people great enlightenment. That is, since VO_{2max} as the index to estimate the endurance performance is limited, can RE be regarded as the first valuating index of endurance performance? However, before applying the RE, the first problem is to find out the RE test method. Otherwise it will prevent RE research and application in athletics and body constitution evaluation in a large part. RE intensity shall be found first while RE test method is found. Controversy on the choice of intensity still exists in foreign studies and no RE intensity of age over eighteen is reported. Several papers related to RE at home introduces the RE intensity of foreign countries directly. As the difference among races, regions and life styles, certain question to the practicability of introducing foreign RE intensity does exist.

By choosing 67 male soldiers as study objects, using treadmill running, choosing appropriate running intensity, testing the heart, the concentration of blood lactic acid and so on, integrating the running performance and analyzing the relevant data collected, the purpose of the study is to seek for the optimum running intensity and establish the test methods of RE.

Methods: Firstly, the VO_{2max} of 40 general male is tested, and then during the experiment period, their running performance for 5km is tested. Secondly, according to the four values, 55%, 60%, 65% and 70% VO_{2max} , in the range of aerobics, and combining the four kinds of the corresponding tested value of VO_{2max} , the corresponding treadmill running speed is found out. Thirdly, the RE experiment of the four levels is done. Use 5km performance as the criterion and analyze the related test results so as to find the optimum running speed

as the optimum RE intensity of age 18~23 male soldiers. In addition, another 27 male soldiers are chosen to test the validity of RE. The experiment is done under the optimum RE intensity and the performance of 3km is tested during the experiment. Analyze the RE test results and the performance of 3km, and observe whether this RE intensity can reflect the exercise performance of the subjects or not, so as to confirm the validity of RE intensity. Meanwhile, when testing the 27 subjects, complete test method of RE is established, so as to obtain the data of related indexes. Finally, 13 subjects are sampled from the 27 subjects to complete the random sample and observe stability of RE.

Results and conclusion:

1. This research draws the conclusion that 11.5m/h is the optimum running speed for 18-23 years old male soldiers in china. the speed of 11.5m/h is typical and repetitive ones.
2. It establishes the standard test method of RE for 18-23 years old male soldiers in our China.
3. The correlation between running economy and running performance is closer than VO_{2max} and VT. The longer the distance, the higher performance that RE reflects.

Key Words: Running Economy, VO_{2max} , Optimum Load

成年人群運動後恢復期心率的變化規律研究

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Change Tendency of Post-exercise Recovery Heart Rate in Adults

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摘要

研究目的：通過對中國成年人群臺階試驗恢復期心率數據的分析，揭示成年人群運動後恢復期心率的變化規律。

研究方法：本研究根據2005年國民體質監測抽樣中的臺階試驗中，記錄的運動後1-1.5、2-2.5、3-3.5分鐘的三次心率，以及年齡和性別等數據（年齡段為20-60歲；其中男性70226名，女性70061名），分析了三次恢復期心率變化趨勢和恢復期心率平均值與年齡和性別的關係。通過小樣本人群（157人）進行臺階試驗，記錄恢復期全過程的心率，進一步驗證了三次恢復期心率變化趨勢和恢復期心率平均值與年齡和性別的關係。數據處理與檢驗使用統計軟體SPSS software 10.0（SPSS, Inc., U.S.）。

研究結果：臺階試驗恢復期心率下降的變化率沒有明顯年齡差異（one-way ANOVA, $p < 0.001$ ），而在總體趨勢上，臺階試驗中的恢復期平均心率隨年齡增加而下降的趨勢。臺階試驗中，運動恢復期1-1.5、2-2.5、3-3.5分鐘三個時間段所記錄的各年齡段人群平均心率變化趨勢是基本一致。各年齡段男性群體恢復期心率之差為 9.76 ± 0.25 次/分和 5.14 ± 0.19 次/分；各年齡段女性群體恢復期心率之差為 10.48 ± 0.33 次/分和 4.87 ± 0.20 次/分。說明臺階試驗中，1-1.5、2-2.5、3-3.5分鐘三個時間段所記錄的各年齡段人群平均心率的變化率沒有明顯的年齡差異。所以，使用臺階試驗臺階試驗的恢復期平均心率是可以代表恢復期心率變化的總體趨勢。但是考慮到性別可能對心功能評價帶來的差異，將男性和女性群體的臺階試驗臺階試驗恢復期平均心率分別進行分析，發現由於存在性別差異，男性群體比女性群體恢復期心率變化慢一些（ $p < 0.001$ ）。提示在使用臺階試驗臺階試驗恢復期平均心率代表恢復期心率變化總體趨勢時進行心功能評

價時，要分別對男女性群體進行分析。為了進一步驗證臺階試驗數據分析得到的結果，即人群平均恢復期心率的變化率隨年齡變化的特點。我們在小樣本的試驗中，採用了即時監測心率的方案。20-24歲、25-29歲、30-34歲、35-39歲、40-49歲和50-59歲六個年齡組人群平均恢復期心率的變化。對各年齡段人群的平均恢復心率變化進行二次曲線擬合可以發現各曲線的二次項係數變化沒有一致性的變化趨勢（男性人群心率變化曲率均值為 0.0082 ± 0.0011 ， $CV=13.4\%$ ；女性人群心率變化曲率均值為 0.0089 ± 0.0005 ， $CV=5.6\%$ ）。各年齡段人群的平均恢復心率變化進行二次曲線擬合的結果，進一步驗證了各年齡段人群平均心率的變化率沒有明顯的年齡差異，使用臺階試驗恢復期平均心率代表恢復期心率變化的總體趨勢，並通過恢復期平均心率變化的比較可以進行各年齡段人群心功能的評價和比較。

研究結論：各年齡段人群平均心率的變化率沒有明顯的年齡差異，但是恢復期平均心率隨年齡增長而下降。

關鍵字：恢復期心率，成年人群，臺階試驗

Abstract

Objectives: This study aimed to explore the change tendency of post-exercise recovery heart rate in adults

Methods: This study compared the heart rates in 140,287 Chinese subjects of different age groups, measured at three time points after performing a step test. Real-time monitoring of post-exercise recovery heart rate was also performed in a smaller sample of 157 subjects. We also used heart rate data from the step test to analyze defects in the Fitness Index, with the aim of establishing a basis for using heart rate recovery to evaluate heart function. Data were analyzed statistically using one-way analysis of variance (ANOVA) with SPSS software 10.0 (SPSS, Inc., U.S.). Values of $p < 0.001$ were considered to be statistically significant.

Results: The results of the step test showed that recovery heart rate was closely related to age. There were significant differences in the average recovery heart rates among the different age groups (one-way ANOVA, $p < 0.001$). Based on the China fitness monitoring data in 2005, the results of the step test showed that recovery heart rate was closely

related to age, and the trends in heart rate recovery from three time points rates to normal heart rate were similar in all age classes. The differences in recovery heart rates in both men and women were unaffected by increasing age, which explains the lack of difference in the rates of change between the different age groups. However, the rate of change of recovery heart rate was slower in men than in women ($p < 0.001$). In order to illuminate the effects of age on change of recovery heart rates, real-time monitoring of recovery heart rate was performed in a small sample of participants (The recovery heart variation in six age groups: 20–24 years old, 25–29 years old, 30–34 years old, 35–39 years old, 40–49 years old and 50–59 years old). The quadratic coefficients of conic curves indicated no positive relationships with age (average heart rate change conic coefficient in men: 0.0082 ± 0.0011 , $CV = 13.4\%$; average heart rate change conic coefficient in women: 0.0089 ± 0.0005 , $CV = 5.6\%$).

Conclusions: These results demonstrate that age had no effect on rates of recovery heart rate change and the value of average recovery heart rate decreased with increasing age .

KeyWords: recovery heart rate, adults, step test

哈爾濱市教師群體骨密度現狀調查與運動干預措施研究

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Harbin City Teacher Groups of Bone Mineral Density Investigation And Exercise Intervention Study

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研究目的：通過對哈爾濱市2488名教師進行骨密度（BMD）健康狀況檢測，旨在發現哈爾濱市教師骨骼健康現狀，進而提出相應運動干預措施，以保障哈爾濱市教師群體身體健康，促進哈爾濱市教育事業蓬勃發展。

研究方法：本研究採用實驗法，隨機抽取哈爾濱市道裏區、南崗區、香坊區、道外區等區多所學校中的2488名教師作為研究數據。其中男教師732名，女教師1756名。採用sunlight超聲骨密度儀器對受試者橈骨遠端進行測試，從而對哈爾濱市教師群體骨質狀況進行評價。

研究結果：

1. 哈爾濱市教師群體骨密度檢測結果，骨質正常占總體的百分比為85.5%。骨量減少人數占總體的百分比為13.1%。患骨質疏鬆症人數占總體的百分比為1.4%。

2. 隨著年齡的增長，哈爾濱市教師群體骨密度呈下降趨勢，骨質疏鬆症的發病率逐年增多。年齡在20-39歲之間患骨質疏鬆症的百分比為0.6%，年齡在40-59歲之間患骨質疏鬆症的百分比為1.8%，當年齡增大到60-69歲時患骨質疏鬆症的百分比迅速增至20.0%。年齡大於70歲骨質疏鬆症的百分比達到50%。

3. 哈爾濱市教師群體骨密度檢測結果呈現性別差異。女性患骨質疏鬆症的幾率高於男性1.0%。女性患骨質疏鬆症的占1.7%，男性患骨質疏鬆症的占0.7%。

4. 哈爾濱市教師群體骨密度T值的測量結果，平均值為-0.4，其中，最大值為4.8，最小值為-4.5，標準差為0.8。

研究結論：由於環境、氣候、經濟等原因，哈爾濱市教師群體的骨質疏鬆症的發病率高達1.4%，應引起高度重視。堅持按照預防骨質疏鬆症的運動處方進行鍛煉是經濟實惠、安全有效的方法。該處方包括運動目的、運動專案、運動強度、運動時間、運動時間帶、運動頻度、運動期限、注意事項等部分。堅持運動干預、合理飲食、藥物治療三者同時使用，能夠更好的防治骨質疏鬆症的發生。保障哈爾濱教師群體的身體健康，促進哈爾濱市教育事業更好更快的發展。

關鍵字：哈爾濱市，教師，群體，骨密度，調查，運動干預，措施

Abstract

Study objective: Through the Harbin city of the 2488 teachers of bone mineral density (BMD) health check. To found Harbin City teacher skeletal health status, and then put forward the corresponding preventive measures. To protect the Harbin City teacher group health, promote the development of education in Harbin city.

Research methods: This study uses experimental method, random and draw-out Harbin Daoli District, Nangang District, Xiangfang District, Daowai District and other area schools in 2488 teachers as the research object. The male 732 teachers, female teachers 1756. Using sunlight ultrasonic bone density apparatus on the subjects of distal radius were tested, and on the Harbin City teacher groups of condition evaluation.

Results:

1. The Harbin City teacher groups of bone density testing results, with normal percentages of the 85.5%. Reduced bone mass percentages of the number 13.1%. Osteoporosis accounted for the overall percentage of 1.4%.
2. Along with the growth of the age, the Harbin City teacher groups of bone mineral density decreased, the incidence of osteoporosis is increasing year by year. In 20-39 between old age osteoporosis for the percentage of 0.6%, at the age of 40-59 between aged osteoporosis for the percentage of 1.8%, when the age was increased to 60-69, the risk of osteoporosis percentage increased quickly to 20%. Age greater than 70 years osteoporosis percentage reached 50%.

3. The Harbin City teacher groups of bone density testing results show gender differences. Women likely to suffer from osteoporosis than men 1%. Women with osteoporosis accounted for 1.7%, osteoporosis in men 0.7%.
4. The Harbin City teacher groups of bone mineral density measurement results of T value, average value for 0.4, wherein, the maximum value is 4.8, the minimum value for 4.5. The standard deviation is 0.8.

Research conclusions: Due to the environment, climate, economy and other reasons, Harbin City teacher groups in the incidence of osteoporosis in high amounts to 1.4%, should cause height to take seriously. In accordance with the prevention of osteoporosis exercise prescription exercise is economical, safe and effective method. The prescription including movement, sport, exercise intensity, exercise time, movement time, movement frequency band, attention to matters such as part of. Adhere to exercise, reasonable diet, medication for three persons using both to better prevention and treatment of osteoporosis. Protection of Harbin teachers' physical health education in Harbin City, to promote the cause of better and faster development.

Keywords: Harbin city, teacher, groups, bone mineral density, survey, exercise intervention, measures

關於大眾健身的抗阻力量運動處方研究進展

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Research Advancement on Exercise Prescription of Resistance Training about Sport for All

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摘要

抗阻力量運動（RT）具有維護健康體重，增肌減肥作用。在大眾健身運動指南中，抗阻力量運動越來越受到重視。RT運動處方包括運動頻率、強度、時間和運動類型，強度是最重要也是最難掌握的部分。在實施中要遵循循序漸進、因人而異、全面計畫和堅持不懈的原則。另外，安全問題也不可忽視。

關鍵字：抗阻力量，運動處方，大眾健身，研究進展

Abstract

Resistance training can increase muscle strength and decrease fat as well as keep healthy weight. Exercise instruction for sport for all pay more attention on resistance training. Exercise prescription for resistance training consists of exercise frequency、intensity、time and type. Exercise intensity is the most important part. When we carry out the exercise prescription for resistance training (RT), We should follow the principle of advancing step by step、varying with each individual、planning for all and unremitting. In addition, safety can not be ignored.

Key words: resistance training, exercise prescription, sport for all, research advancement

大學生頸部不適及相關症狀調查與運動處方干預研究

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College Students' neck discomfort symptoms present situation investigation and intervention of Sports Prescription

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摘要

頸部不適及相關症狀的發生，給在校大學生的生活與學習帶來諸多不便與痛苦，為瞭解頸部不適及相關症狀的發病情況，分析頸部不適及相關症狀發生的原因，防治頸部不適及相關症狀的發生，本研究通過問卷調查，觸診、X射線以及頸椎活動度測量，得到大學生患有頸椎病的比例達到31.7%，以及患有頸部僵硬、頸痛、頸椎彈響、由頸部不適引起的肩沉、上肢放射痛、頭痛、眩暈、手臂麻木的比例。通過問卷調查與結果對比發現，患有頸部不適及相關症狀的大學生長時間看書不休息、看書時頭低得過低、較長時間的近距離的操作電腦、經常性躺著看書、生活在較為潮濕的環境中、看書操作電腦時使用桌椅高度比例不當、坐姿不端正、熬夜、缺少體育鍛煉等的比例比頸部健康的學生的比例高。通過三個月的頸部活動操練習，患有頸部不適及相關的症狀的比例降低。說明頸部活動操對大學生的頸部不適及相關症狀起到了改善作用。為防治頸部不適及相關症狀的發生，建議大學生每天長時間的低頭後，練習頸部活動操。

關鍵字：大學生，頸部，運動處方，干預

Abstract

through questionnaire, palpation, X ray and cervical range of motion measurements obtained, university students suffering from cervical spine disease ratio reached 31.7%. Through the questionnaire survey and the results found, suffering from cervical spondylosis university read a book, read a Book growth time without rest when the head is too low, a

long time close to operate the computer, read a book, often lie live in damp environment, study tables and chairs used in highly inappropriate ratio, sitting not correct, stay up late, lack of physical exercise other than cervical health student ratio greater than. By three months of the neck exercise, suffering from neck discomfort symptoms decreased the percentage. Description of neck exercises on College Students' neck discomfort to improve the role, for the prevention of the occurrence of cervical spondylosis, suggested that students every day after long time of head, neck exercises exercises.

Keyword: College students, neck, exercise prescription, intervention

“國民體質監測”背景下對南京市健康老年居民跌倒的體質原因的分析**薛勝峰¹，江年¹，戎愛群¹，徐岩¹****1. 江蘇省南京市體育科學研究所，南京 210016****In the context of “National physique monitoring” A study on
constitution factors for falling down in elderly residents of Nanjing****Xue shengfeng¹, Jiang nian¹, Rong aiqun¹, Xuyan¹****1. Nanjing Research Institute of Sports Science, Nanjing 210016, China****摘要**

研究目的：跌倒的危險因素眾多，從臨床醫學角度可分為生理、病理、藥物、環境等因素。本文通過對南京市社區老年人體質狀況的研究，從體質健康角度入手，分析體質因素中影響老年人跌倒的危險因素，積極預防跌倒事故的發生。

研究方法：實驗法，文獻資料法

研究結果：易跌倒人群與正常老年人群相比：

1. 身體形態上存在差異，但不應作為判斷標準；
2. 身體機能上易跌倒老年人群的肺體比明顯小於正常老年人群；
3. 身體素質上易跌倒老年人群各項指標上均存在明顯差距。

結論：無論老年人群身體形態如何（高矮胖瘦），應從身體機能及素質入手，以加強體育鍛煉為手段，重點加強肌肉力量、身體柔韌性、平衡性及反應速度的鍛煉，達到有效預防跌倒事故發生的目的。

關鍵字：跌倒，體質，原因，預防

Abstract

Objective: Risk factors for falls of many, from the clinical point of view can be divided into physiological, pathological, pharmaceutical, environmental and other factors. Based on the physical condition of the elderly in Nanjing research community, from physical health perspective, analyzes the factors that affect the physical risk factors for falls in older people, and actively prevent fall accidents.

Research method: experiment, documents and materials

The results: people easily fall compared with the normal elderly population:

1. There are differences in body shape, but not as a criterion;
2. Bodily functions easy to fall on the body than the lungs of the elderly population significantly less than the normal elderly population;
3. Easy to fall on the physical fitness of the indicators on the elderly population are significant gaps.

Conclusion: Regardless of how the body shape of older age groups (drawing near), physical function and quality from start to enhance physical exercise as a means to focus on strengthening the muscle strength, body flexibility, balance and reaction speed of the exercise, to be effective in preventing fall accidents the purpose of the occurrence.

Keywords: falls, physique, causes, prevention

青年女教師肌肉力量、身體成分與骨密度的關聯性研究

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Association between muscle strength, endurance, body composition and bone mineral density in young women

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摘要

研究目的：探討青年女教師肌肉力量、身體成分、骨密度等指標的相關性，為改善她們的骨密度水平，提高體質提供參考依據。

研究方法：青年教師106人（25-44歲），5歲分組，進行仰臥推舉、負重蹲起、負重屈肘的1RM、15RM和握力、跪臥撐、仰臥舉腿等肌肉力量與耐力測試；同步使用GE雙能X線骨密度儀進行全身BMD、正位脊椎（L2-L4）BMDH、雙側股骨頸BMD及體脂%、肌肉含量和骨礦含量等身體成分測定。對最大肌力、肌肉耐力、身體成分與骨密度進行相關性分析。

結果：25-29歲組右手握力和30-34歲的左、右手的握力與全身骨密度的相關係數分別為：0.504；0.674；0.697；35-39歲組1RM仰臥推舉值與全身骨密度、正位脊柱、左和右側股骨頸骨密度均存在顯著性相關，其相關係數分別為：0.728；0.514；0.748；0.715；在肌肉耐力對骨密度影響中，25-29組連續深蹲與全身骨密度值的相關係數為0.646，與右側股骨頸骨密度相關係數為0.477，30-34年齡組中左側股骨頸相關係數為0.568，仰臥推舉中，25-29組與全身骨密度相關係數為0.546，30-34歲組與左側股骨頸骨密度相關係數為0.595，35-39歲組正位脊柱骨密度相關係數為0.604；所有年齡組中肌肉含量與骨密度有顯著性相關，相關係數分別為：0.782；0.576；0.797；0.594。

結論：青年女教師的最大肌力與骨密度相關密切，發展仰臥推舉力量對提高全身BMD、正位脊柱、左和右側股骨頸BMD有積極的效果；肌肉耐力各指標與全身骨密度、股骨頸、正位脊柱BMD的相關比較中呈現中度或高度相關，提示發展相應的肌肉耐力對提高BMD值有一定幫助。

關鍵字：肌肉力量，身體成分，骨密度

Abstract

Objectives: To investigate the association between bone mineral density (BMD) and muscle strength, endurance, body composition in young women.

Methods: The present study evaluated 106 women with age 25-44, who were divided into 5 groups per five years. All the subjects performed maximum muscle strength tests (handgrip strength, 1RM bench press, 1RM weight squat, 1RM biceps curl) and muscle endurance tests (support kneeling, supine leg raise, 15RM weight squat, 15RM bench press, 15RM biceps curl). Body composition (lean mass, fat mass, and % fat) and BMD of lumbar spine (L2-L4), femoral neck, and total body were measured by dual-energy X-ray absorptiometry.

Results: After adjusting for covariates, we found significant associations between BMD and the handgrip strength in 25-29 and 30-34 year group (R range, 0.50-0.69). In 35-39 years group, strength of 1 RM bench press was strongly and positively related to BMD in all sites (R = 0.728, 0.514, 0.748, 0.715, respectively). Of all the muscle endurance test, 15RM weight squat was significantly related to BMD of right femoral neck (R = 0.48), total body (R = 0.65) in 25-29 year group, and left femoral neck (R = 0.57) in 30-34 year group. 15 RM bench press presented significant positive correlation with BMD of total body in 25-29 year group (R = 0.55), left femoral neck in 30-34 year group (R = 0.59), and lumbar spine in 35-39 year group (R = 0.60). Lean mass in all groups was strongly and positively related to BMD of total body.

Conclusion: BMD was associated with lean mass and muscle strength and endurance in the extremities of young female, a finding suggesting that muscle strengthening interventions may contribute to the bone health in them.

Key Words: muscle strength, muscle endurance, body composition, bone mineral density

七周有氧運動對肥胖和肥胖抵抗大鼠血漿NPY的影響

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Effect of seven weeks aerobic exercise on plasma Neuropeptide Y Of rat by taking high fat diet

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研究目的：在肥胖與肥胖抵抗的基礎上，觀察七周有氧運動對高脂膳食大鼠血漿神經肽Y(NPY)的影響，探討運動減肥的機理。

研究方法：60隻SD大鼠全部用高脂飼料餵養8周，根據體重篩選出膳食誘導肥胖和肥胖抵抗大鼠。肥胖和肥胖抵抗模型成功後，分為4組：肥胖組、肥胖運動組；抵抗組、抵抗運動組。全部繼續進行高脂飲食，運動組同時進行游泳運動訓練。干預7周後，處死各組大鼠，測定脂肪量、血漿NPY等指標。

結果：

1. 實驗結束時，肥胖組體重、脂肪量、脂體比、總攝食量顯著高於抵抗組。
2. 肥胖運動組與肥胖組相比，體重、脂肪量、體脂率顯著下降。抵抗運動組與抵抗組相比，體重、脂肪量沒有顯著變化。
3. 肥胖組血漿NPY顯著高於抵抗組（ $P < 0.01$ ）；肥胖運動組與肥胖組相比，血漿NPY顯著下降（ $P < 0.05$ ）。抵抗運動組與抵抗組相比沒有顯著變化。

結論：

1. 本實驗應用高脂飲食成功複製肥胖和肥胖抵抗模型。

2. 在高脂膳食餵養過程中，NPY敏感性下降,促使肥胖的發生發展；肥胖大鼠與肥胖抵抗大鼠相比，存在NPY抵抗。

3. 通過長時間有氧運動，機體消耗能量增加，改善機體代謝水平，NPY的敏感性增加，改善了機體NPY抵抗，最終維持機體代謝平衡。

關鍵字：肥胖，肥胖抵抗，有氧運動，神經肽Y

Abstract

Objective: To develop a rat model of diet-induced obese and resistant by high fat diets, and to study the effect of aerobic exercise on the plasma Neuropeptide Y, this study tried to explore the mechanism that exercise improves obese.

Methods: 60 male SD rats were fed high fat diets for 8 weeks. The diet-induced obese (DIO) rats and diet-induced resistant (DIO-R) rats were selected based on the body weight. The model group was randomly divided into 4 groups: obese group, obese-exercise group, resistant group, resistant-exercise group. All the rats were continually given high fat diets; exercise group accepted swimming training at the same time. After 7 week-interventions, all the rats were killed and the fat pad weight and plasma NPY were determined.

Results:

1. At the end of experiment, compared with resistant group, obese group had obviously increased body weight, fat pad weight, fat pad weight/body weight, food intake.
2. Compared with obese group, obese-exercise group had obviously decreased body weight, fat pad weight, fat pad weight/body weight. Compared with resistant group, resistant-exercise group had not show statistical differences of body weight, fat pad weight/body weight.
3. Compared with resistant group, obese group had obviously increased plasma NPY ($P<0.01$). Compared with obese group, obese-exercise group had obviously decreased plasma NPY ($P<0.05$). Compared with resistant group, resistant-exercise group had not showed statistical differences.

Conclusion:

1. This paper succeeds to replication a rat model of diet-induced obese and resistant by high fat diets.
2. The NPY sensitivity decline in the process of the high fat diet feeding, which prompts the development of obesity. Compared with resistant rat, obese rat has NPY resistance.
3. The body increase energy consumption and improve metabolism through long aerobic exercise, which increased the sensitivity of NPY and improved NPY resistance, and to maintain the metabolic balance of body.

Keywords: diet-induced obese, diet-induced obese resistant, aerobic exercise, Neuropeptide Y

不同方式運動中最大脂肪氧化強度的測定

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**Determination of the exercise intensity that elicits maximal fat
oxidation in different exercise style**

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研究目的：在減脂運動中，脂肪氧化的速率是決定減脂效果的關鍵因素，運動強度則是影響脂肪氧化速率的關鍵因素，在各種減脂運動中，採用適當的運動強度，均可以獲得這種運動方式的最大脂肪氧化速率。除了運動強度，運動形式也是影響脂肪氧化速率的因素，不同運動方式各自的最大脂肪氧化速率也存在差異。以往研究認為，對普通人來說，強度適宜的步行（平地走）運動氧化脂肪的速率最大。但是否存在其他脂肪氧化速率更大的運動形式，比如上坡走？本研究擬通過呼吸代謝測試，研究平地走與上坡走中能量消耗數據的差異，以建立更高效、安全的運動減脂方法。

研究方法：受試者為11名健康男性大學生，年齡 22.1 ± 1.6 歲，身高 176.6 ± 5.6 cm，體重 65.7 ± 6.4 kg，體脂肪率 $13.75 \pm 3.27\%$ 。所有受試者分別進行遞增強度的平地走和上坡走運動。平地走：在進行3分鐘速度為3.5km/h的步行熱身後，進行起始速度為4km/h、每兩分鐘遞增1km/h的運動，直到達到10km/h。上坡走：在熱身後，進行速度恒定為4km/h、起始坡度為0、每兩分鐘坡度遞增2%的運動，直到達到12%。在運動過程中進行呼吸氣體代謝測試。受試者在兩種測試前飲食方案相同，避免高糖、高脂肪飲食，餐後2.5小時開始測試。

結果：隨著運動強度的增大，兩種運動的心率、攝氧量、呼吸商、總能量和碳水化合物的消耗速率均呈遞增趨勢。在上坡走中，脂肪氧化速率隨坡度增加而遞增，而在平地走中，脂肪氧化速率—速度曲線則呈現出中間高、兩端低的現象。在全部七級負荷中，平地走的脂肪氧化速率始終小於上坡走。平地走和上坡走的最大脂肪氧化速率分別為 16.0 ± 3.5 g/h和 20.9 ± 6.9 g/h ($P < 0.05$)，對應的運動強度分別為 5.9 ± 1.0 km/h和 $8.7 \pm 3.3\%$ 坡度（速度為4km/h），攝氧量分

別為 1.223 ± 0.216 l/min和 1.449 ± 0.313 l/min ($P < 0.05$)，總能耗速率分別為 357.0 ± 64.8 kcal/h和 420.1 ± 89.0 kcal/h ($P < 0.05$)，心率、每分通氣量、呼吸商和碳水化合物消耗速率則無顯著性差異。

結論：遞增強度上坡走的最大脂肪氧化速率顯著高於平地走，建議肥胖人群可考慮使用上坡走作為減脂運動方式。

關鍵字：最大脂肪氧化強度，步行，氣體代謝

Abstract

Aims: The intensity of the exercise is critical factor of fat oxidation rate. Exercise at optimal intensity could induce maximal fat oxidation rate. Beside the intensity, the form of the exercise affect the fat oxidation too. It was said that walking at optimal speed could induce maximal fat oxidation rate in previous study. But is there other form of exercise could induce higher fat oxidation rate, such as walking on a slope? This study tried to examine the difference of the data on energy expenditure of walking on horizontal plane and slope.

Method: 11 healthy, male students (age: 22.1 ± 1.6 year, height: 176.6 ± 5.6 cm, weight: 65.7 ± 6.4 kg, body fat rate: $13.75 \pm 3.27\%$) were recruited to perform two different tests successively. 1. Walking on horizontal plane (HW): The speed of first grade was 4 km/h and increase 1 km/h progressively in every two minutes until the speed reach 10 km/h. 2. Walking on slope (SW): The speed was held at 4 km/h while the slope gradient increased 2% in every two minutes form 0% until it reach 12%. Fat oxidation was measured using indirect calorimetry during both exercises.

Results: In every grade of load, the fat oxidation rate of SW was higher than HW. The maximal fat oxidation rate of HW and SW was 16.0 ± 3.5 g/h and 20.9 ± 6.9 g/h ($P < 0.05$), the intensity of exercise, oxygen uptake, energy expenditure rate were 5.9 ± 1.0 km/h and $8.7 \pm 3.3\%$ slope gradient (4 km/h), 1.223 ± 0.216 l/min and 1.449 ± 0.313 l/min ($P < 0.05$), 357.0 ± 64.8 kcal/h and 420.1 ± 89.0 kcal/h ($P < 0.05$) respectively. There were no significant differences of heard rate, air flow rate, respiratory quotient and carbohydrates oxidation rate between HW and SW.

Conclusion: The maximal fat oxidation rate in SW is higher than HW while the physiological load is similar. It's Suggest that when obesity people apply the exercise form of walking on slope may get better efficiency and less risk.

Keyword: maximal fat oxidation, walking, cortex

12周步行鍛煉對高血壓患者血壓及血脂影響的研究

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Effects of 12-week Brisk Walking on Blood Pressure and Lipid in Hypertension Patient

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研究目的：以高血壓患者運動負荷試驗後即刻心率和血壓的變化，制定個性化的步行運動方式，探討步行對血壓及血脂代謝的影響，為科學制定高血壓運動處方提供依據。

研究對象：經嚴格篩選，選取上海市虹口區原發性 I、II、III 級及臨界高血壓患者共 104 名。其中男性 27 人，女性 77 人，平均年齡 56.77±5.40 歲。均自願參加步行干預試驗，並簽署自願參加同意書。

研究方法：

1. 對象篩選方法：通過健康問卷調查、健康檢查、運動能力測試排除繼發性高血壓和不適合參與步行鍛煉的受試者。

2. 健康檢查：生理指標（安靜心電圖、血壓，運動負荷後即刻血壓和心電圖）；血脂指標（禁食 12 小時後清晨空腹抽上臂靜脈血，測定 TC、TG、HDL-c、LDL-c）。

3. 運動負荷能力測試：採用自製臺階凳（高 20cm），進行兩次運動負荷試驗，第一次臺階負荷試驗受試者按節拍器 15 次/分鐘上下臺階，第二次受試者按節拍器 30 次/分鐘上下臺階。均持續運動 2 分鐘。

4. 運動處方的制定：首先進行 2 周預實驗，在無任何干預的情況下，計步器記錄 1 小時和 1 天步數，並記錄清晨安靜心率和 1 小時步行後的即刻心率。根據運

動負荷能力測試制定運動強度：1小時步行後即刻心率=(第二次臺階負荷後即刻心率-安靜心率)×60%+安靜心率；以平均日常1小時活動量為基礎增加5%作為干預期間1小時活動量，以平均日常1天活動量為基礎增加10%作為干預期間1天活動量。要求受試者每天持續步行1小時，其中有效步行時間≥45分鐘。每週5次。

5. 數據處理方法：採用Spss17.0統計軟體對數據進行處理，所有數據均用M+SD表示，採用配對T檢驗進行前後試驗測試對比。

研究結果：

1. 經過12周步行鍛煉，受試者收縮壓、舒張壓、脈壓差顯著降低($P<0.001$)。血壓達正常的有18人，達臨界高血壓的有52人；高血壓 I、II、III級受試者的人數明顯少於步行鍛煉前；單純收縮期高血壓人數明顯下降。步行鍛煉後服藥情況未變的有38人；不服藥的有35人；減藥的有31人。

2. 總體上TC、TG、LDL-c、TC/LDL-c具有下降趨勢，但無顯著性意義($P>0.05$)；HDL-c顯著性上升($P<0.05$)。步行鍛煉前血脂異常者，鍛煉後LDL-c、TC/HDL-c下降具有顯著性意義($P<0.05$)；TC、TG、HDL-c趨向正常的比例增加。

研究結論：

1. 採用60%儲備心率的運動強度，結合計步器制定運動處方持續步行1小時是可行的。

2. 12周步行鍛煉可明顯改善血壓和脂代謝。

1. Objective: To set up personal brisk walking prescription according to rate of hypertension, immediate heart rate and blood pressure in exercise tolerance test, so as to explore the influence of walking exercise on blood pressure and lipid metabolism, and to provide the basis for establishing hypertension exercise prescription as well.

2. Methods:

2.1 Subjects: Before trial, all patients were tested blood pressure, questionnaire investigation, exercise stress test and health check (rest electrocardiogram and blood pressure, immediate blood pressure and electrocardiogram in exercise tolerance test;

After 12-hour fasting, withdraw the anticoagulative blood to measure TC, TG, HDL-c, LDL-c), exclusion criteria: secondary hypertension patients, patients who were not suitable for brisk walking. Then 104 patients (27male and 77 female, average age was 56.8 ± 5.4) of essential hypertension were investigated in Hongkou district, Shanghai. All subjects signed voluntary consent and they performed brisk walking for 12 weeks.

2.2 Exercise tolerance test: Using a self-made step stool (high 20cm) to carry out Exercise tolerance test twice, two minutes for each course. The first test was 15 times per minute up and down the steps with administer, and the second one was 30 times.

2.3 Establishing exercise prescription: For 2 weeks preliminary study without any intervention, recording the number of steps in one hour of continuous walking and a day of brisk walking, also we will record morning rest heart rate as well as it immediately after exercise. According to the exercise stress test for athletic intensity: immediately heart rate after 1 hour walking = (heart rate immediately after the second exercise tolerance test - resting heart rate) $\times 60\%$ + resting heart rate.

The intensity of activities one hour in intervention than normal daily one hour activities increased 5%. The intensity of all day activity of intervention than normal daily activities increase 10%. Subjects were asked to continuous walking for 1 hour, including effective walking time more than 45 minutes, and 5 days per week.

2.4 Statistics: SPSS17.0 statistical software was used for data analysis, Paired T-test was used to compared data from before and after intervention, and all the data were expressed by means \pm standard deviation ($M \pm SD$).

3. Results:

3.1 systolic blood pressure, diastolic blood pressure, and difference of pulse pressure significantly decreased, respectively ($P < 0.001$, $P < 0.001$, $P < 0.001$) after 12-week Brisk Walking, Of all the patients, 18 persons were normal blood pressure, 52 persons were the critical hypertension. high blood pressure I, II, III level subjects obviously less than before trial; The number of isolated systolic hypertension declined significantly. After trial, 38 persons continued to take medicine, 31 reduced the dosage and 35 did not take medicine at all.

3.2 TG, TC, LDL-c and TC/LDL-c had a downward trend, but no significant meaning ($P > 0.05$); HDL-c raise significantly ($P < 0.05$). After brisk walking, LDL-c、TC/HDL-c of lipid abnormality significantly decreased ($P < 0.05$).

4. Conclusions:

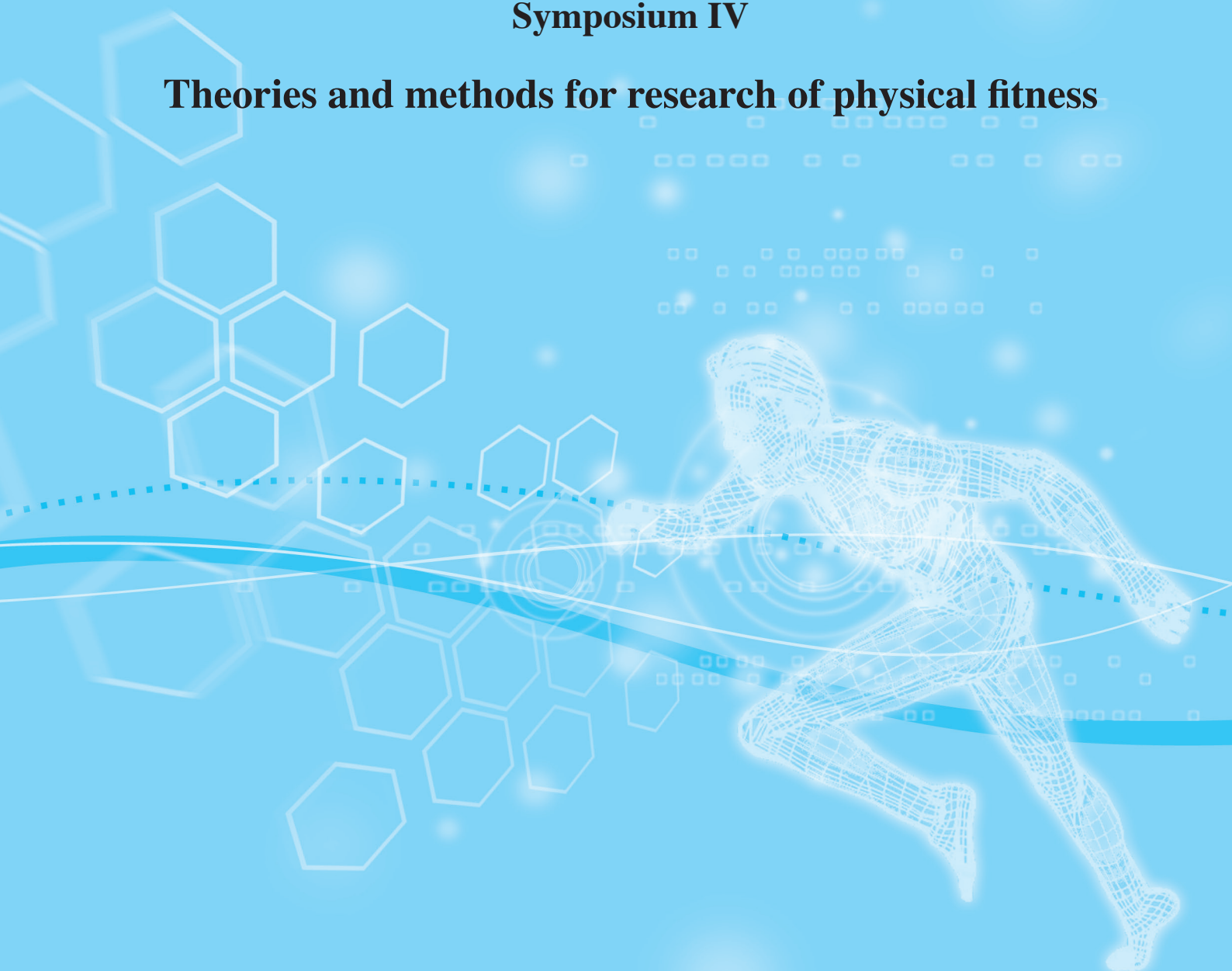
4.1 It is feasible to walk an hour five times per week with the intensity of 60% maximal heart rate reserve,

4.2 12-weeks brisk walking could improve blood pressure and lipid metabolism of type II hypertension patients.

專題報告 IV
體質研究的理論與方法

Symposium IV

Theories and methods for research of physical fitness



對兒童少年心肺體質場地測試手段信度和效度的系統評價

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Reliability and validity of field-based cardiorespiratory fitness tests in children and adolescents: system review

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摘要

目的：系統評價現有針對兒童少年人群心肺體質場地測試手段的信度和效度水平。

方法：制定文獻檢索策略，檢索1990年1月~2011年1月公開發表的英文全文文獻，信度研究根據受試者描述、重複測試時間間隔、統計方法和研究結果，效度研究根據受試者例數、受試者描述和統計方法對納入文獻進行品質評估，分為高品質、低品質和極低品質研究。根據研究數量和研究結果的一致性確定各場地測試手段信度和效度的證據等級，分為證據充分，證據中等和證據不足。

結果：高品質研究中涉及心肺能力測試手段的信度研究有12項，最常見的測試手段是20米往返跑（8項）、1英里跑/走（5項）和Andersen測試（2項）；涉及心肺能力測試手段的效度研究有11項，最常見的測試手段是20米往返跑（8項）和1英里跑/走（3項）。

結論：基於目前的證據水平提出了針對兒童少年心肺體質場地測試手段的信度和效度等級。信度方面，20米往返跑和1英里跑/走評價心肺能力的信度證據充分，Andersen測試信度的證據中等，5分鐘場地跑、6分鐘步行、15米往返跑、Yo-Yo測試和Cooper測試的證據等級不足。效度方面，20米折返跑預測心肺能力效度的證據充分，1英里跑/走測試效度的證據中等，1英里步行、亞極量1英里場地慢跑和1/2英里跑/走預測心肺能力效度的證據不足。

關鍵字：兒童少年，場地測試，心肺體質，信度，效度

Abstract

Objective: To assess the reliability and validity level of existing field-based cardiorespiratory fitness test in children and adolescents.

Method: Search related literature from Jan. 1990 to Jan. 2011, and all chosen studies were classified as high, low or very low quality according to quality assessment criteria, which include the description of the participants, the time interval between measurements, the description of the results and the appropriateness of statistics in reliability studies, and number of subjects, the description of the participants and statistical analysis in validity studies. Three levels of evidence were constructed according to the number of studies and the consistency of the findings, including strong evidence, moderate evidence and limited evidence.

Result: There are 12 reliability studies and 11 validity studies of high quality studies related to cardiorespiratory fitness. The most common field-based tests used in reliability studies are 20m shuttle run(8 studies), 1 mile run/walk (5 studies) and Andersen test(2 studies), and the most commonly field-based tests used in validity studies are 20m shuttle run(8 studies) and 1 mile run/walk (3 studies).

Conclusion: Although some fitness components warrant further investigation, this research provides an evidence-based proposal for most reliable and valid field-based fitness tests for use with children and adolescents: In aspect of reliability studies, there was strong evidence showed that 20m shuttle run and 1mile walk/run were reliable methods to test cardiorespiratory fitness, moderate evidence for andersen test and limited evidence for 5 minutes filed-run, 6 minutes walk, 15m shuttle run, yo-yo test and modified copper test. In aspect of validity studies, there was strong evidence indicating that the 20 m shuttle run test was a valid test to estimate cardiorespiratory fitness, moderate evidence for 1-mile run/walk test, and evidence of 1mile walk, submaximal 1-mile track jog test and 1/2-mile run/walk test were limited, mainly due to a limited number of studies. The results of the present systematic review should be interpreted with caution due to the substantial lack of consistency in reporting and designing the existing studies.

Keywords: children and adolescents, cardiorespiratory fitness, filed-based test, reliability, validity

運動健身指導方案研究進展

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Progress of the Researches on Fitness Instruction Plan

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研究目的：以新近完成的“十一五”科技支撐計畫專案“中國國民運動健身科學指導與效果評價關鍵技術研究”為重點，介紹運動健身指導方案理論與方法學研究方面的進展，並介紹在不同年齡正常人群和常見慢性疾病人群中，健身指導方案及健身效果評價體系的研究情況，為構建全民健身指導體系提供參考。

研究方法：通過文獻資料、專家諮詢及實驗測試等方法，由北體大、上海體院、武漢體院、西安體院、成都體院、瀋陽體院、山東體院等多所院校共同承擔，在全國多個省市聯合開展幼兒、少年、成人和老人四個正常人群（跨度從3-69歲）和部分慢性疾病人群（肥胖症、2型糖尿病、高血壓病及骨質疏鬆症人群）運動健身指導方案及效果評價的研究，測試人數共計6739人。

研究結果：在“十五”科技支撐計畫專案“中國國民運動健身科學指導系統的研究與應用”研究成果以及國內外相關研究的基礎上，創編和改良了40餘種健身方式（見表1），探討了不同健身方式進行鍛煉的效果，並集中解決了一些大眾健身中的關鍵技術。在幼兒部分，研製了以幼兒遊戲和體操為主的6大健身運動模組，開發了18套幼兒健身操與遊戲；提出了兒童青少年有氧耐力、力量素質、靈敏協調能力及柔韌素質四種健身模組的設計模式，可以根據青少年學生健身的不同需要，組合出幾百種的鍛煉方案。在青少年肥胖研究中，首次建立了比較成熟有效的兒童青少年全封閉型運動減肥模式，並已經運用該模式開辦了青少年減肥夏令營，減肥效果顯著。在成年人群研究中，首次將健身氣功易筋經作為一種健身運動來研究，並首次提出曲進直退健身走（蛇形走）這種民間特有的健身方法，在老年人群中創編了抖空竹、彈力帶操、減脂水鈴操等健身方式。

在慢性疾患病人群的运动干預研究中，已開發了糖尿病人的簡易功率自行車、木蘭拳等健身方式，摸索出患者、醫生、體育指導員三維一體參與鍛煉，集

中指導—分散鍛煉相結合的運動干預模式，在實踐中取得良好效果。針對高血壓和骨質疏鬆症患者分別創編的健身降壓操和健身健骨操。

該項目研究的成果具有研究群體廣泛、全面，受試人數多、健身方式豐富，研究成果應用性強等特點

表1 不同人群的健身方式和方案

人群	健身方式和方案
幼兒	6大類18套幼兒健身遊戲和體操
兒童青少年	有氧耐力、力量素質、靈敏協調能力及柔韌素質四類健身方式
成年人	慢跑、快走、蛇形走、柔力球、皮筋操、易筋經
老年人	快走、抖空竹、橡皮筋操、五禽戲
肥胖人群	健步走、減脂水壺鈴操、秧歌扇子舞、組合減重
糖尿病	功率自行車，太極拳，木蘭拳，快走，健身路徑
高血壓	健身操、太極拳、健身走
骨質疏鬆	健身操、組合力量、組合運動方式

研究結論：通過集成創新，或改良創編，探討了40餘種不同健身方式的鍛煉對身體的影響，豐富和完善了我國的健身指導方案體系。集中解決了不同人群健身指導和效果評價過程中的20多項關鍵技術，為科學健身提供了理論和實踐依據。特別是對健身的強度、效果評價指標、幼兒及兒童青少年健身模組的設計等方面，在理論和方法上的突破創新，直接為健身方式和健身方案的推廣應用打下良好的基礎。

Aims: Focused on the “Research on the scientific guidance and key techniques for the fitness instruction of Chinese civilians”, which is a project of the scientific support initiative during the Eleventh Five-year Plan, this thesis gives an introduction of the progress of the theories and methodologies for fitness instruction researches. Meanwhile, the status quo of the fitness instruction plans and evaluation system in the normal group and the other group with chronic diseases is also mentioned. Both of the groups include different age

ranges. Hopefully, it can be referred by the National Fitness Instruction System.

Methods: With the aids of reviewing relative articles, consulting experts, and experiments, a research was done on the fitness instruction plan and evaluation system in the two groups mentioned above. In the normal one, there are children, youngsters, adults, and seniors (3yrs old-69yrs old). In the one with chronic diseases, there were people with problems of obesity, type 2 diabetes, hypertension, and osteoporosis. The cooperative research was done together by Sport Institutes of Beijing, Shanghai, Wuhan, Xi'an, Chengdu, Shenyang, and Shandong. The number of the subjects is 6739.

Results: On the basis of the “Research and Appliance to the System of National Fitness Instruction” in the support initiative and the relative researches from home and abroad, at least 40 fitness styles were invented and reconstructed (Fig. 1). The effects of the styles were discussed. Problems were solved concerning the key techniques in the massive fitness. For children, 6 parts of fitness modes are developed, dominated by some games and gymnastics. Also there are 18 body-building exercises and games. A model combined by aerobic endurance, coordination ability and flexibility was given to support the development of respective fitness plans according to different needs of students. In the obesity research of youths, a fully-closed weight reduction mode was initiatively set up. A summer camp was operated under such mode and has made a big loss to the weight. For the adult group, Yijinjing, a traditional Chinese Qigong, was also initiatively treated as a fitness exercise. The fitness walking with its routine of curling-forward and direct-backward (Snake walk) was also developed. We recommend spinning hollow reels, exercises with elastic braces, and fat-loss exercise with Shuiling.

In the intervention to the chronic group, the simple Ergometer and Mulan Boxing are developed. Joined by patients, doctors, and fitness instructors, an intervention mode was made, which combines the group instruction with individual exercise. It practised well. For the patients of high blood pressure and osteoporosis, exercises for lowering the pressure and for strengthening the bones are developed respectively.

The characteristics of the results of the research include selecting the subjects from all aspects of society, abundant exercise styles, strong applicability.

Fig.1 Fitness Plans for Different Groups

Group	Plan
Children	18 settings (6 categories) of games and gymnastic exercises
Youths	Exercises for aerobic endurance, strength, coordination ability and flexibility
Adults	Jogging, Brisk walking, Snake walking, Rouli ball, Elastic brace exercise, Yijinjing
Seniors	Brisk walking, Elastic band exercise, Wuqinxi
Obesity	Brisk walking, fat-loss exercises with shuihuling, Yangge dance with fans, combined weight loss
Type 2 diabetes	Ergometer, Taichi, Mulan boxing, Brisk walking, fitness routine
Hypertension	Aerobic exercises, Taichi boxing, fitness walking
Osteoporosis	Aerobic exercises, combined strength training, combined exercises

Conclusions: The national fitness plan system was enriched after the innovation, inventions and developments of certain fitness exercises, including discussion of the 40 ones. 20 key techniques were invented for the fitness instruction and evaluation, while supporting the theoretical and practice evidence. Especially to the strength, evaluation indicators, models designed for the children and youths, the innovation in the theories and measures directly give a solid base for the promotion of fitness styles and plans.

BMI峰值年齡及超重肥胖觸發年齡的研究—以四川省2010年國民體質 監測樣本為例

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Study on BMI Peak Age and Triggered Age of Overweight and Obesity—A Case Study of The Physical Fitness Surveillance of Sichuan Province in 2010

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研究目的：分析群體BMI的年齡趨勢以及體重超重、肥胖流行的年齡階段。

研究方法：取2010年四川省國民體質監測中成年、老年52615人的BMI指數進行統計，採用百分位元數法和曲線擬合進行分析。

結果：男子BMI從20歲到39歲快速增長，40歲以後保持穩定，BMI峰值年齡為44-51歲；女子BMI從20歲緩慢增長，直到58歲後趨於穩定。BMI峰值年齡為62-66歲；超重和肥胖的觸發年齡男子為21歲、27歲，女子為28歲、37歲。

結論：峰值年齡、超重和肥胖的觸發年齡反映群體BMI年齡趨勢和特點，是預測分析體重超重和肥胖的流行趨勢的界值點，可為肥胖防治工作提供參考。

關鍵字：BMI，峰值年齡，觸發年齡，百分位，擬合曲線，四川

Objective: This study is aimed to analyze the age trend of BMI and the epidemic age stage of overweight and obesity.

Methods: Based on the 52615 data of adult group and elderly group on the physical fitness and health surveillance of Sichuan Province in 2010, we analyze the index of BMI by method of percentile and curve fitting.

Results: Curve fitting shows that the BMI gradually enters rapid growth period from 20~39 years old and stabilize in 40 years old for male. The BMI of female began a slow

growth after 20 years old and stabilize in 58 years old. The BMI peak is 44~51 years old for male and 62~66 years old for female. The trigger age of overweight and obesity are 21 and 27 years old respectively for male. The trigger age of overweight and obesity are 28 and 37 years old respectively for female.

Conclusion: Peak age, overweight and obese trigger age to reflect the BMI age trends and characteristics in mass data, can provide a reference for the prevention and treatment of obesity.

KeyWords: BMI, Peak age, Trigger age, Percentile, Curve-fitting, Sichuan

顯性肥胖和隱性肥胖的界定探討

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Dominant obesity and recessive obesity definition research

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摘要

1.目的：傳統肥胖界定中沒有重視一種現象：體型比較勻稱甚至瘦弱，但脂肪含量超標，這種現象普遍存在。由於具有隱蔽性，不易發覺，其危害性更大。如何界定這種現象，不僅在理論上是一種創新，而且具有較強的實用性。

2.方法：使用韓國Biospace.InBody3.0測試體脂肪含量、體重指數。共測試593人，每10歲為一個年齡段，其中女性210人，年齡20~55歲；男性383人，年齡20~59歲。

體脂肪含量男性超過20%，女性超過28%為肥胖。肥胖且體重指數等於或大於24，為顯性肥胖；肥胖但體重指數小於24，為隱性肥胖。

3.結果：各年齡段均存在顯性肥胖和隱性肥胖。測試人群，甚至可以大膽推測，其他人群也存在顯性肥胖和隱性肥胖。

顯性肥胖和隱性肥胖存在性別差異（ $P < 0.01$ ）。男性肥胖比較“張揚”，以顯性肥胖為主；女性肥胖比較“矜持”，以隱性肥胖為主。

4.討論：

4.1 體重指數界定肥胖：研究表明，大多數個體的體重指數與身體脂肪的百分含量有明顯的相關性，能較好地反映機體的肥胖程度。但在具體應用時還應考慮到其局限性，如對肌肉很發達的運動員或及體力勞動者，體重指數值可能過高估計其肥胖程度，發生誤判。一些平日不愛活動或活動量極小的所謂“虛胖”的人，老年人的肌肉組織與其脂肪組織相比，肌肉組織的減少較多，計算的體重指數值可能過低估計其肥胖程度，發生漏判。相等體重指數的女性的體脂百分含量一般大於男性。

4.2 體脂肪含量界定肥胖：用體脂肪含量界定肥胖真實、可信，缺點是未考慮肥胖的視覺效果。如體型比較勻稱甚至瘦弱、脂肪含量超標這種肥胖，就與通常所講的肥胖形象聯繫不上。

4.3 體重指數與體脂肪含量結合界定肥胖：用體重指數與體脂肪含量結合將肥胖界定為顯性肥胖和隱性肥胖，這是創新提法。既解決體重指數界定肥胖出現的誤判、漏判問題，也解決體脂肪含量界定肥胖未考慮肥胖的視覺效果問題。正常情況下，臃腫肯定肥胖，但肥胖不一定臃腫。

5. 結論：

5.1 體脂肪含量結合體重指數對肥胖進行界定，未曾見到報導。肥胖且體重指數等於或大於24，稱為顯性肥胖；肥胖但體重指數小於24，稱為隱性肥胖。

5.2 各年齡段均存在顯性肥胖和隱性肥胖，甚至可以大膽推測，其他人群也存在顯性肥胖和隱性肥胖。從健康角度看，隱性肥胖具有隱蔽性，不易發覺，其危害性更大，應高度重視。

5.3 顯性肥胖和隱性肥胖存在性別差異。男性肥胖比較“張揚”，以顯性肥胖為主；女性肥胖比較“矜持”，以隱性肥胖為主。

Abstract

1. Objective: The traditional definition of obesity not attach importance to a phenomenon: size more well-balanced even “thin”, but fat content exceeds bid.

This phenomenon is widespread has a hidden and difficult to find, the greater danger. How to define this kind of phenomenon not only in theory is a kind of innovation, and has strong usability.

2. Methods: South Korea Biospace.InBody3.0 test using body fat content, body mass index. 593 people were tested, a 10-year-old age group, including 210 women, ages 20 to 55 years; 383 men, aged 20 to 59 years.

Body fat content over 20% of men, women more than 28% were obese. Obesity and BMI equal to or greater than 24, the dominant obesity; obesity, but body mass index less than 24, is recessive obesity.

3. Results: The existence of all ages has the dominant and recessive obesity. Test groups,

or even bold speculation, there are also other groups dominant and recessive obesity. Obesity in men and women there are significant differences in performance ($P < 0.01$). Male obesity more “publicity” to the main dominant obesity; Female obesity more “reserved” to the main recessive obesity.

4. Discussion:

4.1 BMI defined obesity: Studies show that most individual's body mass index and body fat percentage content of a clear correlation, the body can better reflect the degree of obesity. However, in the specific application should take into account its limitations, such as well-developed muscles and manual workers or athletes, body mass index may overestimate the value of their degree of obesity, a miscarriage of justice. Some activities or activities normally not love a very small amount of so-called “puffiness” of the people, the elderly and their muscle tissue than fat tissue, muscle tissue to reduce more weight in the index value may underestimate the degree of obesity, the occurrence of Missing. The equal body mass index's feminine body fat percentage is bigger than the male generally.

4.2 definition of body fat content obesity: Definition of obesity using body fat content real, trustworthy, drawback is that the visual effect is not considered obese. Size more well-balanced even if thin, fat content exceeded that of obesity, the obese and often speak of the image can not contact.

4.3 body mass index and body fat with obesity defined: With body mass index and body fat content with the obesity are defined as dominant and recessive obesity, which is innovative formulation. BMI defined obesity both appear to solve the false positives, the missing issue, but also to solve obesity which body fat content did not consider obesity as defined visual problems. Under normal circumstances, bloated sure obesity, but obesity is not necessarily bloated.

5. Conclusion:

5.1 Body fat content in obese with body mass index to define, not seen reported. Obesity and BMI equal to or greater than 24, as dominant obesity; obesity, but body mass index less than 24, referred to as hidden fat.

5.2 The existence of all ages are dominant and recessive obesity, or even bold speculation,

there are also other groups dominant and recessive obesity. From a health perspective, recessive obesity has a hidden and difficult to find, the greater danger, should be highly valued.

5.3 Dominant and recessive obesity gender differences exist. Male obesity more “publicity” to the main dominant obesity; Female obesity more “reserved” to the main recessive obesity.

Keyword: dominant obesity, recessive obesity, definition

江蘇省成年人高血壓患病風險與主要肥胖參數關係的多元邏輯回歸分析

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Binary Logistic Regression on the Relationship between the Main Obesity Parameters and Hypertension Risk of Jiangsu Adults

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摘要

研究目的：使用邏輯回歸方法，綜合評估各肥胖參數對高血壓的不同影響作用。

研究方法：以20-59歲江蘇成年人男女各12159和12544人為研究數據，選擇身體品質指數（BMI）、腰圍（WC）、腰臀比（WHR）和體脂百分比（PBF）及其評價標準為研究指標。高血壓的判定：收縮壓 $\geq 140\text{mmHg}$ 和/或舒張壓 $\geq 90\text{mmHg}$ ，和/或問卷中自述患有高血壓的，判斷為高血壓。首先通過單因素卡方分析分別計算各肥胖參數表示的高血壓患病率，並以體重正常人群為對照組，計算超重或肥胖組人群患高血壓的相對危險度（OR）。然後以血壓分類為因變數，以年齡段及4個肥胖參數的肥胖評價等級為引數，建立多元邏輯回歸模型，分析各風險因素對血壓的綜合影響效應。

研究結果：

1. 隨著肥胖程度的提高，患病率及相對危險度均顯著提高，但PBF的超重和肥胖等級的OR值略低。40歲以上組患病率明顯高於40歲以下組。女性高血壓患病率總體低於男性，但隨著年齡的上升，女性高血壓患病風險增加幅度更大。

2. 邏輯回歸結果表明對血壓水平的影響作用呈BMI>WC>WHR>PBF的態勢，其中PBF的影響作用相對較小。對女性而言，PBF的影響相對較大。

研究結論：本研究表明，總體來看，對血壓的影響作用，體重指數大於腰圍，腰圍又大於腰臀比，而體脂百分比作用相對較小。對女性而言，向心性肥胖可能是更為危險的致病因素。年齡和肥胖是誘發高血壓的最危險因素，因此保持

健康的生活方式，控制體重，是預防高血壓的重要途徑之一。

關鍵字：肥胖，高血壓，邏輯回歸，成年人，患病率

Abstract

Objective: To make a comparative study of the different influencing effects of main obesity parameters on hypertension risk among Jiangsu adults.

Method: Anthropometric data of body mass index (BMI) , waist circumference (WC), waist-to-hip ratio(WHR) and percentage of body fat (PBF) from the subjects aged from 20-59, 12159 men and 12544 women, sampled in 2010 physical fitness survey in Jiangsu province, were analyzed. According to the evaluation standards of the 4 parameters, the body weight of those adults were categorized into groups of average, overweight or obese. Hypertension was judged according to the following standards: diastolic pressure ≥ 90 mmHg and/or systolic pressure ≥ 140 mmHg. The incidences of hypertension for different weight group and the OR values of overweight and obese group were computed. With blood pressure classification as a dependent variable and body weight classifications expressed in above-mentioned 4 obesity parameters as independent variables, a binary logistic regression was made to assess the relationship between the 4 parameters and the hypertension risk.

Results:

1. With the rising extent of obesity, the incidence rates and OR values of hypertension increased, but the OR values for PBF with hypertension in overweight and obesity groups were lower compared to those for other obesity parameters. The incidence of hypertension among those over 40 years old was obviously higher than that below 40 years old; In general more men developed hypertensions but there would be a rapid growth of incidence among women with a rise of age.
2. Logistic regression showed a descending order of BMI, WC, WHR and PBF in their significance of positive correlation with hypertension. Women are likely more sensitive to hypertension induced by WHR-related obesity.

Conclusions: Age and obesity are main risk factors of hypertension. BMI, WC are of special significance in predicting hypertension. Keeping a healthful living style is important to hypertension prevention.

Keywords: obesity, hypertension, logistic regression, adults, incidence

不同抽樣樣本量的體質監測結果比較

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Comparison of physical fitness surveillances with different sample size

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摘要

探討國家國民體質監測的省樣本（三個抽樣地市）與全省樣本的體質監測結果是否有差異，為國民體質監測工作的進一步開展提供科學依據。資料來源於2010年浙江省（除金華外的十個地市）國民體質監測以及浙江省三個國家點（杭州、溫州、嘉興）體質監測原始數據，指標進行描述性分析並採用顯著性（T檢驗）和效應量對兩組數據進行比較檢驗。結果顯示十個省點和三個國家點的體質單項指標多數差異無統計學意義，但體質評定等級差異有顯著性，說明採取分層隨機整群的抽樣方法抽取的三個國家點可以較好的代表總體水平，但考慮到樣本量的分析要求，作為省級監測樣本，有必要瞭解各地市的體質狀況。建議全面鋪開體質監測，這樣可以更全面、更精確的掌握國民體質狀況。

關鍵字：體質監測，樣本，效應量

Abstract

The purpose of this study was to determine whether there is difference in the results between national physical fitness surveillance and provincial physical fitness surveillance, in order to provide scientific references for physical fitness surveillance in the future. The data of the study came from national physical fitness surveillance 2010 in Zhejiang province (Hangzhou, Wenzhou and Jiaxing) and Zhejiang fitness surveillance 2010 (ten cities except Jinhua). Descriptive statistics were used to describe key variables of the two sets of data. Null hypothesis significance testing (independent t test) and effect size were applied to compare the two groups of data. No statistical differences were found in most

of variables on physical fitness. However, there was significant difference in physical fitness grading. The results indicated that the three regions sampled in national physical fitness surveillance could well represent citizen's physical fitness level in Zhejiang province. However, for provincial physical fitness surveillance, it is still needed to know the physical fitness level of each region in Zhejiang province. Therefore, sampling in each region is recommended for provincial physical fitness surveillance, in order to accurately and comprehensively monitor citizen's physical fitness in Zhejiang province.

Keyword: physical fitness surveillance, sample, effect size

國民體質測定中反應時適宜測試次數確定的探討

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Investigation on Appropriate test times of reaction time during Citizen Physical Fitness

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摘要

目的：本文通過分析不同年齡、不同職業、不同地域成年人的反應時測試結果值，試圖確定較能反映受試者真實反應水平的測試次數，建議在國民體質測定中採取合適的測試次數以取得更接近受試者的真實水平的測試值。

方法：以20~69歲間、每5歲為一個年齡組，隨機選取男女各10人共200人為研究物件，記錄每人測試30次共6000次測試值，統計軟體使用SPSS17.0（中文版）進行時間序列預測和方差分析。

結果：

1. 前1-5次時，測試值隨測試數的增加呈快速下降趨勢，第6-8次的測試值相對穩定，隨著測試次數的增加，測試值曲線呈現緩慢下降並有起伏的趨勢。

2. 取各年齡組第6次測試平均值與全區、全國2010年國民體質監測反應時平均值相比，多組別具有顯著性差別。

結論：多次的實驗過程表明其測試次數與測試結果值的變化有一定的規律性。反應時測試值的結果受測試次數的影響，主要表現為受試者對測試具有適應性，其適應能力與年齡、性別、教育程度、職業和熟練程度、測試環境等因素相關。受試者在第6-8次測試時表現為基本適應測試要求，其測試值可以認為能代表其真實反應水平。

關鍵字：反應時，測試次數，適應性，測試值，時間序列預測

Abstract

Purpose: The paper aims to define the test times which can better reflect the actual reaction level of the tested by analysis on the test result of reaction time by adults at different ages, with different vocations and in different areas. It is suggested to adopt appropriate test times in Citizen Physical Fitness Measurement, so as to obtain more actual level of the tested.

Method: Take 10 male and 10 female persons aged between 20-69 from 200 people as study target, with 5 years difference as each age group, record 30 times test results of each person, totally 6000 times. Adopt statistics software SPSS17.0 (Chinese version) for time sequence forecast and variance.

Result:

1. For the first 5 times, the test values trends downward with the increase of test times. Values from 6-8 times are relatively stable. With the increase of test times, the test value curve appears slow downward and waves.
2. Compare the average values of the 6th test values from each age group with the average value of 2010 whole district and national citizen physical fitness measurement, it is found that multiple groups have distinguished difference.

Conclusion: Multiple times of tests indicate that the test times and the variance of test results have certain rule. The reaction time test results are influenced by the test times, which mainly reflect on: the tested person has adaptation for the test, which relates to the

age, sex, education background, vocation, familiarity and test environment. The tested person's performance in 6-8 times of test means basically meeting test requirements. The test results can be regarded as his/her actual reaction level.

Keywords: Reaction time, test times, adaptation, test results, time sequence forecast

國外青少年體質測定標準之力量素質評價指標研究

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The Research on evaluation indexes of strength quality about international adolescents' Physical Fitness Standard

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摘要

本文著重對美國、日本、新加坡、新西蘭等國家及非洲、歐洲等大洲的青少年體質測定標準中力量素質評價指標進行分析，得出國外力量素質評價指標的設置：注重發展上肢力量；強調差異性；趨向簡捷化、可操作化，為完善中國力量素質測定乃至整個體質測定標準提供參考。

關鍵字：體質，測定標準，青少年，力量素質，評價指標

Abstract

This thesis analyzes the evaluation indexes of strength quality of the Physical fitness Standard about adolescents in America, Japan, Singapore, New Zealand as well as Africa and Europe. According to the analysis, this paper investigate the installation of foreign evaluation indexes of strength quality. It contains three parts. Firstly, it emphasizes the strength of upper limb. Secondly, it considers the diversity when they set up these evaluation indexes. Lastly, these evaluation indexes tend to simplicity and operationalization. These summaries would be used as a reference point for Strength Quality Fitness in china and even for the whole Physical Fitness Standard.

Keywords: physical condition, fitness standard, adolescents, strength quality, evaluation indexes

Developing an International Comparable Measurement of Physical Activity of Adolescent in China and a Comparative Study on Physical Activity among Chinese and Finnish School-aged Children

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Abstract

Background: Physical activity (PA) is essential for the development of children and adolescent. Numerous studies have been done and well documented that PA can benefit to young people's physical fitness and health, and establish a healthy adult behaviour. Therefore, daily one hour moderate to vigorous physical activity (MVPA) are recommend. However, with the changing of life style, the lack of PA and increasing physical inactivity become more and more common among young people. In addition, the decline of the youth participation in PA has been a global concern. The status of PA of Chinese schoolchildren is also not optimistic.

The first step toward understanding young people's PA is to obtain abundant and accurate data. Although there are several objective assessment can provide precise information of PA, surveys are the most common methodological technique used in large scale surveillance to assess PA. So far, a few national surveys in regarding to youth participation in PA have been conducted. But very few of them can provide a comprehensive and cross-national comparative measurement of PA of adolescent. The Health Behaviour in School-aged Children (HBSC) is among the first large-scale international surveys on adolescent health behaviour including PA, which offers a useful tool to examine PA in different context. The aims of the present study are twofold. Firstly, to develop an international comparable measurement of PA in Chinese surveillance, the test-retest reliability of the

HBSC survey items of PA were evaluated. Secondly, we use three HBSC PA indicators to compare the current status of PA among Chinese and Finnish schoolchildren.

Methods: For the test-retest reliability study on PA items of HBSC survey questionnaire, a sample of 95 male ($n = 51$) and female ($n = 44$) students aged 11 or 15 years old participated in a test and retest with a three weeks interval. Student identity numbers of respondents were utilized to permit matching of test-retest questionnaires. Four items used in the HBSC survey questionnaire concerning physical activity (MVPA in last week, MVPA in the usual week, VPA frequency and VPA time per week) were evaluated by using the percentage of response shifts and the single measure Intraclass Correlation Coefficients (ICC) with 95% confidence interval (CI) for all respondents and stratified by gender and age.

For the comparative study on PA between Chinese and Finnish schoolchildren, the sample included 5876 Chinese (Boy 47.9%) and 5249 Finnish (Boy 47.8%) schoolchildren aged 11, 13 and 15 years old. The percentages of student who reported at least one hour PA daily in last week, at least four times PA per week, and at least four hours PA per week were calculated by gender, age and country. Differences in percentage of PA in China and Finland were compared through Pearson's Chi-square test.

All survey procedure and data processing in above-mentioned two studies were strictly followed the HBSC research protocol. Statistical analyses were done by using PASW with version 18.0. A p value of < 0.05 or 95% CI do not overlap were considered statistically significant.

Results: The percentage of no response shift or only shift one category between test and retest is varied from 70% for the item on MVPA in usual week to 76% for the item on VPA time per week. The reliability of the four items assessing PA ranged from moderate (ICC = 0.57) to almost perfect agreement (ICC = 0.82) in general. The lowest reliability was found in the item measuring VPA time per week and the highest reliability in the item relating to MVPA in last week. No statistically significant differences were found either by gender or by age group, though the ICC value may differ.

The percentages of at least one hour MVPA daily for Chinese boys were slight higher than Finnish boys (13yrs: CN 25.9%, FI 24.2%; 15yrs: CN 15.9%, FI 14.6%) except for the youngest group (11yrs: CN 31.3%, FI 48.1%). But for girls, Chinese students were

less reported daily active than Finnish peers in three age groups. For both two measures of VPA, the percentages of Chinese students decreased with age growing ($p < 0.05$) and it was much lower than Finnish samples in all age groups ($p < 0.001$). For instance, the percentages students reported at least four times VPA per week were 38.6%, 35.0%, and 23.8% for boys, and 27.6%, 20.6%, and 12.1% for girls respectively in three age groups. In addition, gender differences were found in all three indicators of PA in China while it was not found for the Finns who reported at least four hours PA per week.

Conclusions: This study represents the first assessment of the test-retest reliability of the HBSC survey items concerning PA in a Chinese context and the comparison of adolescents' PA among Chinese and Finnish schoolchildren through the HBSC research protocol. The findings of reliability study suggest that all four items measuring PA in the HBSC survey questionnaire have satisfactory test-retest reliability for schoolchildren in Beijing. Comparing to the Finnish schoolchildren, the lack of PA in Chinese students is more obvious, especially for the Chinese girls. The trend of adolescents' PA decrease with age growing was common in China for both boys and girls. However, the trend was not consistent in Finnish samples.

Despite the limitations, this study provided valuable information on feasibility of developing an international comparable measurement of PA of adolescents in China and a cross-national comparison on PA among Chinese and Finnish schoolchildren, which has accumulated experiences for the further Chinese HBSC survey as well as added new literature of understanding the PA of adolescent in both countries. Further studies in larger and more diverse samples, as well as validity studies on the items measuring PA, and international comparison studies researching the determinants and correlates of adolescents' PA should be considered and encouraged to widen our knowledge.

Keywords: Adolescent health, Physical activity, Questionnaires, Reliability, Survey methods

超重、肥胖對幼兒身體素質的影響

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The effect of overweight and obesity on physical fitness of preschool children

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研究目的：探討超重、肥胖對幼兒身體素質的影響

研究方法：本文以參加2010年上海市國民體質監測的幼兒為研究對象，採用將一方等人研製的超重、肥胖評價標準將受試者分為正常體重組，超重組和肥胖組。本文在分析不同體重組間體質綜合得分的差異時，將體質總分減去身高標準體重分，以消除身高標準體重分的影響，同時選定平衡木完成形式都為正常完成的形式，去除橫走對總分影響。兩兩體重組間進行身體素質和體質綜合得分比較時採用單因素方差分析。

結果：

1. 在身體形態方面，肥胖組的身高、體重、BMI都大於超重、正常體重組。
2. 在立定跳遠項目上，3歲幼兒各體重組的成績相當，4-6歲幼兒不同體重組的成績表現為：正常體重組 > 超重組 > 肥胖組，5歲正常體重組與超重、肥胖組存在顯著性差異，6歲正常體重組與肥胖組存在顯著性差異。
3. 各體重組網球擲遠的成績變現為：肥胖組 > 超重組 > 正常體重組。在3歲幼兒、4歲男幼兒中，正常體重組與肥胖組比較具有顯著性差異。
4. 10米折返跑的成績從4歲開始，正常體重組 > 超重組 > 肥胖組，6歲男性幼兒正常體重組與超重組和肥胖組的差異分別具有顯著性和非常顯著性；在女性幼兒中，正常體重組與肥胖組的差異具有顯著性。
5. 在雙腳連續跳測試項目上，不同體重組的成績總體表現為：正常體重組 > 超重組 > 肥胖組。在3歲男性幼兒中，正常體重組與超重、肥胖組的差異具有顯

著性；6歲女性幼兒的肥胖組與正常體重組、超重組的差異具有非常顯著性，超重組與正常體重組的差異具有顯著性。

6. 走平衡木項目，肥胖組的成績最差，正常體重組與超重組相當，6歲男性幼兒的肥胖組與正常體重的差異具有顯著性。

7. 坐位體前屈測試項目，除了6歲男性幼兒，總體上，3-6歲不同體重組的幼兒處在同一水平，沒有統計學意義的差異；在6歲男性幼兒中，超重組 > 正常組 > 肥胖組，超重組、正常組與肥胖組的差異具有顯著性。

8. 不同體重組間的體質總分在3-4歲幼兒中沒有顯著性差異，5-6歲組中，正常體重組 > 超重組 > 肥胖組，只有6歲組男性正常體重組、超重組與肥胖組存在非常顯著性差異和顯著性差異，女性正常體重組與肥胖組存在顯著性差異，這表明，肥胖幼兒與正常體重幼兒身體素質的差異在6歲開始顯現。

結論：超重對幼兒身體素質影響較小，而肥胖對幼兒身體素質的影響具有項目特異性和年齡特異性。

關鍵字：幼兒，超重，肥胖，身體素質

Abstract

Objective: To test the hypothesis that overweight and obesity can affect the physical fitness in preschool children.

Method: The original data from the 3 to 6 years old preschool children who take part in the 2010 Shanghai people physical fitness surveys. The subjects are divided into three groups: normal-weight group(NG), overweight group(OVG) and obesity group(OBG) using reference of Jiang yifang. Deducting the score of weight of the standard height of the comprehensive score of the physical constitution to get a new comprehensive score of the physical constitution and selecting the normal walk, In order to adjust the influence of the score of weight of the standard height and sidelong walk, when compare the physical fitness and the new comprehensive score of the physical constitution among three weight group. Use the ANOVA to compare physical fitness and the new comprehensive score of the physical constitution between two weight group.

Result:

1. The height, weight, BMI of OBG are greater than NG, OVG.

2. On the standing long jump , the achievement of weight groups of 3 years old is equal, the achievement of weight groups of 4~6 years old is shown as: NG > OVG > OBG, at 5 years old children, there are significance differences between NG and OVG, OBG; at 6 years old children, there are very significance differences between NG and OBG.
3. On the tennis throw far: OBG > OVG > NG. The difference of the test results between NG and OVG at 3 years old, 4 years old male preschool children, was significant difference .
4. On the 10 meter shuttle run, since 4 years old, NG > OVG > OBG; At 6-year-old male children, the difference of NG with OVB and OBG were significant and very significant; At the female children, the difference between NG and OBG was significance.
5. On the two feet successive jump, the achievement of different weight groups is shown as: NG > OVG > OBG. At 3 years old male children, there is significant difference between NG and OVG, OBG; AT 6-year-old female children, the difference between OBG and NG, OVG were very significance; The difference between NG and OVG was significance.
6. On the balance beam walk, the achievement of OBG is the worst, NG is equal to OVG, the difference between OBG and NG of the male 6-year-old children was significance.
7. On the Sit and Reach, except the male 6-year-old children, generally, the achievement of different weight groups of 3~6 years old are in the same level; In the male infant 6 years old, OVG > OBG > NG, the difference between OVG, NG and OBG has significance.
8. The new comprehensive score of the physical fitness did not have significance difference in 3-4 years old children; In 5~6 years old group, NG > OVG > OBG, the difference between NG, OVG and OBG have very significance and significance separately at 6-year-old male children; the difference between NG and OBG was significance at female children. These suggest that the significant difference between OBG and NG begins to appear at 6 years old.

Conclusion: Overweight have a little effect on physical fitness of preschool children, the impact of obesity on physical fitness of children with project-specific and age-specific.

Keyword: preschool children, overweight, obesity, physical fitness

中日有運動習慣老年人體質狀況特徵比較及對策研究

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A Comparative and Countermeasure Study on the Physical Condition of Senior Citizens with Exercise Habit in China and Japan

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摘要

目的：我國在“十二五”規劃中重點提到，全民健身關係人民群眾身體健康和生活幸福，是綜合國力和社會文明進步的重要標誌，是社會主義精神文明建設的重要內容，是全面建設小康社會的重要組成部分。面對我國社會老齡化日趨嚴重，建立健全老年體育健身團隊組織。廣泛開展經常性的老年人體育健身活動，辦好老年人體育健身大會。不斷創新適合老年人特點的體育健身項目和方法。同時對老年人活動中心設置適合老年人體育活動的設施，社區服務兼顧老年人體育健身服務成為我們體育工作的重點。日本是較早進入老齡化社會的國家，其相關政策法規及應對老齡化的服務體系較完善。本文通過對中日兩國有運動習慣老年人進行體質測試，將身體形態指標、機能指標、素質指標進行對比，為我國在制定增強老年人體質提供依據。

方法：中國研究對象為長春市老年人，有效監測樣本169人，其中男子88人，女子81人。日本有效監測樣本152人，其中男子75人，女子77人。通過身體形態類、機能類、素質類指標進行對比分析。

結果：中國老年人身高、體重、臀圍都高於日本老年人。隨著年齡的增長身高呈逐漸降低，體重、腹圍、臀圍呈增長的趨勢，按照中國BMI評價標準，中日老年人平均值均屬體重超重。中國老年人安靜心率平均值均高於日本老年人，肺活量平均值均小於日本老年人，甘油三酯（TG）平均值均大於日本老年人，空腹

血糖平均值均小於日本老年人。中國老年人握力、閉眼單足站立時間、開眼單足站立時間、坐位體前屈平均值均小於日本老年人，並隨著年齡的增長差距拉大，兩國老年人閉眼單足站立時間、開眼單足站立時間、坐位體前屈隨年齡的增長呈下降趨勢。

結論：我國老年人在機能方面和身體素質方面均低於日本老年人，造成我國老年人體質指標比日本老年人差的原因是多方面的，我國老年人體質相關指標低於日本老年人存在著一定的必然，就如同剛參加體育鍛煉的愛好者與專業運動員比賽一樣，通過這次中日老年人體質調查比較，解剖日本老年人特點，以及透過現象看本質，瞭解日本政府對老年人的相關政策，從而對我國起到借鑒與指導的作用。

關鍵字：中日，老年人，體質

Abstract

Purpose: Through physical tests on senior citizens with exercise habit in China and Japan, the authors of the thesis compared their morphological indexes, functional indexes, and quality indexes, and provided help for enhancing the physical conditions of the senior citizens in China.

Methodology: The Chinese research object is senior citizen in Changchun, with the number of effective monitoring samples 169. The number of Japanese effective monitoring samples is 152. Then the authors conducted comparative analysis on indexes of morphology, function and quality.

Result: The height, weight circumference of Chinese objects are bigger than those of the Japanese objects. With the increasing of age, the growth height shows a gradually lowering tendency, while the weight, abdominal circumference and hip circumference all show an increasing tendency, and according to the BMI evaluation criterion of China, the average weights of the Chinese and Japanese objects are both faced with the situation of overweight. The average resting heart rate of Chinese objects is higher than that of their Japanese counterparts, while the average vital capacity of the Chinese objects is lower, and their average FBG is lower. The Chinese objects' averages of grip strength, standing time of single foot with eyes closed, standing time of single foot with eyes open, exponent of body anteflexion when sitting are all smaller than their counterparts', with the gaps

enlarging as aging, and both sides' standing time of single foot with eyes closed, exponent of body anteflexion when sitting show a decreasing tendency with aging.

Conclusion: The functions and physical fitness of Chinese senior citizens are worse than those of Japanese senior citizens, and through the investigation and comparison of physical conditions of senior citizens in China and Japan, the authors of the thesis probed into related features of Chinese and Japanese senior citizens and saw through the appearance to perceive the essence, to help their readers get a better understanding of relevant Japanese governmental policies for the old thus they can be reference and guide for China.

Key Words: China and Japan, Senior Citizen, Physical Condition, Exercise Habit

重慶市老年太極拳（劍）業餘運動員肥胖與骨量研究

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Chongqing elderly tai chi (sword) amateur study of obesity and bone mass

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摘要

目的：分析重慶市老年太極拳（劍）鍛煉人群的鍛煉方法對肥胖、骨量的影響。

方法：本次測試對象為參加2011年重慶市老年太極拳（劍）比賽的60歲以上男性和55歲以上女性，共採集有效樣本135例，其中女性100例，男性35例。鍛煉時間均在1年以上。本次測試所用儀器是InBody3.0人體成分分析儀，Sonost-2000骨密度測試儀，測試前儀器均進行嚴格校正。

分析與討論：經測試女性體脂百分比平均為29%，男性體脂百分比平均為20.7%；測試結果反映受測人群男性兩個年齡組T值平均值處於-1.5左右，女性兩個年齡組T值平均值處於-2左右。都處於骨量減少狀態。世界衛生組織統計結果女性腰臀比超過0.86；男性超過0.96將處於心腦血管疾病發病高危範圍。此次測試結果男性2.9%，女性79%處於此範圍，男性只有11.4%，女性僅有1%是正常範圍（見表12、表13），這就不能不引起我們嚴重關注。業餘老年太極拳（劍）鍛煉人群的單一鍛煉方法無疑對有效控制腹部脂肪無幫助。

結論：此次測試的老年太極拳（劍）鍛煉人群的肥胖程度處於較高水平，與全國同年齡組普通人群肥胖程度相當。此次測試的老年太極拳（劍）鍛煉人群的骨密度T值很低，反映骨品質很差。此次測試的老年太極拳（劍）鍛煉人群是參加重慶市級比賽的隊員，部分隊員曾代表重慶市參加過全國比賽且取得好成績，大多數受測者從事該項目鍛煉數年甚至20餘年，測試對象能夠代表這一群體的基本情況。由此認為老年人單純從事太極拳（劍）鍛煉存在著嚴重的局限性，應引起人們的高度重視。

關鍵字：老年人，太極拳（劍），肥胖，骨量

Abstract

Objective: To analyze age Chongqing Taiji (sword) exercise training methods for fat people, the impact of bone mass.

Methods: The test object is elderly in 2011, Chongqing Taiji (sword) games over the age of 60 men and women over 55 years of age, valid samples were collected from 135 patients, including women, 100 cases, male 35 cases. Exercise time were more than 1 year. The test instrument is used InBody 3.0 body composition analyzer, Sonost-2000 bone density tester, before the test apparatus are strictly correct.

Analysis and discussion: The female body fat percentage test average of 29%, the average male body fat percentage is 20.7%; test results reflect the population measured by the two men in the age group the average T value of -1.5 or so, two female age groups T the average value is about -2. Are in a state of reduced bone mass. World Health Organization statistics female waist-hip ratio of more than 0.86; men more than 0.96 will be at high risk of cardiovascular diseases range. The test results of 2.9% in men and women 79% in this range, only 11.4% of men, women, only 1% of the normal range (see Table 12, Table 13), which can not but cause us serious concern. Amateur elderly Tai Chi (Sword) training exercise is undoubtedly the single population of effective control of abdominal fat without help.

Conclusion: The test in elderly tai chi (sword) exercise the degree of obesity at a high population level, and the general population the same age group nationwide considerable degree of obesity. The testing of elderly tai chi (sword) exercise populations is very low bone mineral density T value, reflecting the poor quality bone. The testing of elderly tai chi (sword) to participate in exercise groups are members of Chongqing municipal competition, part of the team participated on behalf of Chongqing City and the national competition to achieve good results, most of the subjects were engaged in the exercise of the project for several years or even 20 years test data to represent the basic situation of this group. These results indicate that older people simply engaged in shadow boxing (sword) there is a serious limitation exercise, should arouse people's attention.

Author: Name: Kuo Chun (1966.8) Sex: Male Birthplace: Chongqing

Nutritionist at the national level, national social sports instructors. 1984 to work in research work in sports in 1988, served as sports science research institutes athletes before the election office; people's physique monitoring center research team leader; mass sports, research director; Sports Science Institute of Chongqing is currently Director of the Office, Chongqing Sports Science Society, Vice Secretary-General.

Research Interests: Nutrition and physical fitness, science and fitness, youth growth and development.

Keywords: elderly, Tai Chi (Sword), Obesity, bone

牆報交流

Poster Session



2000~2010年海南省幼兒（3~6歲）身體形態及生長發育的發展趨勢分析

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Analysis the body shape and growth trends of 2000~2010 Hainan Province's children at the age of 3~6 years

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摘要

運用調查、文獻資料法、數理統計法,對海南省2000~2010年這十年中3~6歲幼兒的身高、體重、克托萊指數人體形態指標進行了測定。研究表明,該年齡段幼兒的身體形態處於穩定增長的發展趨勢,但性別間、年齡間增速不同,呈現出一定的規律;不同性別間幼兒身體形態發展存在差異。不同經濟及地域幼兒生長、發育也是有差別的。

關鍵字：海南，幼兒，生長發育，指數

Abstract

By using the method of investigation and documents and materials and mathematical statistics,the author makes measurement on body height,weight, Quetelet index for 2000~2010 Hainan Province's children at the age of 3~6 years old.The result shows that their body physique grow up stability,but with the gender and ages difference,it appears certain rules.There exist difference for body physique at different gender ; The result too showed there were some distinct differences in growth and development between children under different economy and environment in city and suburbs.

Keywords: Hainan, preschool children, growth and development condition, index

上海市黃浦區老年人2000-2010年身體素質變化的研究

楊若愚，沈雲，陳平，戰旗

上海市黃浦區體育科學研究站

上海市黃浦區體育局，上海 200010

**The Research on Variation of Physical Quality of the Aged from 2000
to 2010 in Huangpu District in Shanghai**

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**Center of Civil Constitution Monitoring of Huangpu district, Shanghai
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摘要

研究目的：瞭解2000年-2010年上海市黃浦區老年人的身體素質狀況，探討力量、柔韌、平衡和靈敏等身體素質的變化情況。

研究方法：從2000年、2005年和2010年上海市黃浦區老年人的國民體質監測數據中選取握力、坐位體前屈、閉眼單足站立和選擇反應時四項身體素質指標，通過單因素方差分析，進行三次監測數據的比較，分析2000-2010年上海市黃浦區老年人身體素質的變化情況。

結果：上海市黃浦區老年人的握力在2000年-2010年的三次國民體質監測中均存在非常顯著性差異（ $P < 0.01$ ），組間兩兩比較，2005年和2010年時的握力都要顯著高於2000年的水平（ $P < 0.01$ ），而2010年較2005年時的握力水平無明顯變化（ $P > 0.05$ ）；60-64歲組男性老年人坐位體前屈指標在2000年-2010年的三次國民體質監測中存在顯著性差異（ $P < 0.05$ ），組間兩兩比較，2010年時的坐位體前屈要顯著高於2000年（ $P < 0.01$ ），其他比較無明顯差異（ $P > 0.05$ ）。60-64歲組女性老年人三次國民體質監測的坐位體前屈存在特別顯著性差異（ $P < 0.01$ ），組間兩兩比較，2005年時的坐位體前屈要高於2000年（ $P < 0.05$ ），2010年的坐位體前屈要顯著高於2000年（ $P < 0.01$ ）。

和2005年 ($P < 0.05$)。65-69歲組男性老年人三次國民體質監測的坐位體前屈存在非常顯著性差異 ($P < 0.01$)，組間兩兩比較，2005年的坐位體前屈高於2000年 ($P < 0.05$)，2010年的坐位體前屈顯著高於2000年 ($P < 0.01$)，2010年和2005年的比較無明顯差異 ($P > 0.05$)。65-69歲組女性老年人三次國民體質監測的坐位體前屈存在非常顯著性差異 ($P < 0.01$)，組間兩兩比較，2005年和2010年的坐位體前屈均顯著高於2000年 ($P < 0.01$)，2005年和2010年比較無明顯差異 ($P > 0.05$)；60-64歲組和65-69歲組男性老年人三次國民體質監測的閉眼單足站立均無明顯變化 ($P > 0.05$)；60-64歲組女性老年人三次監測的閉眼單足站立存在顯著性差異 ($P < 0.05$)，組間兩兩比較，2010年和2000年的閉眼單足站立存在非常顯著性差異 ($P < 0.01$)，其他比較均無顯著性差異 ($P > 0.05$)。65-69歲組女性老年人三次監測的閉眼單足站立存在非常顯著性差異 ($P < 0.01$)，2005年和2000年的閉眼單足站立存在非常顯著性差異 ($P < 0.01$)，其他比較均無顯著性差異 ($P > 0.05$)；男性老年人選擇反應時在三次國民體質監測中存在非常顯著性差異 ($P < 0.01$)，組間兩兩比較，2005年和2010年時的選擇反應時都要顯著快於2000年 ($P < 0.01$)，2010年較2005年時的選擇反應時則無明顯變化 ($P > 0.05$)。女性老年人選擇反應時的三次監測結果也存在非常顯著性差異 ($P < 0.01$)，組間兩兩比較，2005年和2010年的選擇反應時都要顯著快於2000年 ($P < 0.01$)，2010年的選擇反應時結果也明顯快於2005年 ($P < 0.01$)。

結論：上海市黃浦區男性老年人在平時鍛煉時應多加強平衡能力的鍛煉。上海市黃浦區老年人從2000年-2010年10年間身體素質明顯改善，老年人的體育鍛煉和健身活動對提高身體素質的效果非常顯著。

關鍵字：國民體質監測，老年人，身體素質

Abstract

Objective: Acquaint the variation of physical Quality of the aged from 2000 to 2010 in Huangpu district in Shanghai, which provide evidence for launching popular fitness and physical exercise of the aged.

Methods: Select the data of the power of gripping and sitting and reaching and standing with one foot and closing eyes and choice reaction time from civil constitution monitoring of the year 2000、2005 and 2010 in the aged in Huangpu District. Compare the data of three times civil constitution monitoring and analyze the variation.

Results: The power of gripping increased significantly from 2000 to 2010($P<0.01$). Pairwise comparison among groups, the level of the power of gripping in 2005 and in 2010 were both higher than the level in 2000($P<0.01$). The comparison of 2005 and 2010 was not significant($P>0.05$). Sitting and reaching increased significantly in the past ten years($P<0.05$, $P<0.01$). Pairwise comparison among groups, in 60-64 year old group in old man sitting and sitting and reaching of 2010 was significantly higher than 2000($P<0.01$), other comparison were not significant($P>0.05$). In 65-69 year old group in old man sitting and reaching of 2005 was higher than 2000($P<0.05$), 2010 was significantly higher than 2000($P<0.01$), there was no significance within 2010 and 2000($P>0.05$).

In 60-64 year old in old woman sitting and reaching of 2005 higher than 2000($P<0.05$). Sitting and reaching of 2010 was significantly higher than 2000($P<0.01$) and 2005($P<0.05$). In 65-69 year old group in old woman sitting and reaching of 2005 and 2010 were significantly higher than 2000($P<0.01$). There was no significance within 2010 and 2005($P>0.05$). There was no significant variation in standing with one foot and closing eyes in old man($P>0.05$) and significant increasing in old woman($P<0.05$, $P<0.01$). Pairwise comparison among groups, in 60-64 year old group sitting and reaching was significant with 2010 and 2000 in woman($P<0.01$), other comparison were not significant($P>0.05$). In 65-69 year old group sitting and reaching was significant with 2005 and 2000 in woman($P<0.01$), other comparison were not significant($P>0.05$). Choice reaction time was significantly faster from 2000 to 2010($P<0.01$). Pairwise comparison among groups, choice reaction time of 2010 and 2005 were significantly faster than 2000($P<0.01$), there was no significance in 2010 and 2005($P>0.05$) in old man. In old woman choice reaction time of 2010 and 2005 were significantly faster than 2000($P<0.01$) and choice reaction time of 2010 was significantly faster than 2005($P<0.01$).

Conclusion: The old man should enhance the exercise of balanced capacity. The physical quality of the aged improve obviously from 2000 to 2010 in Huangpu district in Shanghai. The physical exercise and fitness activity is significant to increase physical quality of the aged.

Keyword: Civil Constitution Monitoring, the Aged, Physical Quality

湖南省高校體育教育專業學生體質現狀調查研究—以湖南科技學院為例

唐志

湖南科技學院

On Physique Actualities of the Physical Education College Students in Hunan Province--Based on the Instance of Hunan University of Science and Engineering

摘要

近年來，大學生體質健康狀況下降等問題引起了社會各界的高度關注。基於大學生健康成長這一時代課題，本研究使用實驗調查方法，對我校2005級、2006級、2007級和2008級體育教育專業400名本科生身體形態、機能的測試數據進行了連續7年的體質追蹤調查，並對調查結果進行統計分析，分析研究了7年來我校體育教育專業學生體質健康狀況的動態變化趨勢，已引起相關部門的高度重視，以達到真正促進大學生體質健康發展的目的。

關鍵字：體育教育專業，學生體質，調查研究

Abstract

In recent years, the decline of college students' physique caused great concern in the community. Focus on contemporary issues on the healthy growth of college students, the author conducted tracking surveys on the body shape, function test data of 400 Physical Education undergraduates from Grade 2005 to 2008 in Hunan University of Science and Engineering for seven consecutive years. The dynamics of physique status trends of physical education students has been concluded after the statistical analysis of the seven years' experimental data, in order to achieve the real promotion of college students' physique and make the relevant departments take the healthy growth of college students seriously.

Keywords: Physical Education undergraduate, College students' physique, investigation

江蘇省成年人肥胖分佈與影響因素分析

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Analysis on The Epidemiological Characteristics and Influencing Factors of Adult obesity in Jiangsu Province

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摘要

目的：瞭解江蘇省成年人肥胖的流行特徵及其相關影響因素，為科學指導防治肥胖和減少慢性病的危險因素提供理論依據。

方法：採用多階段分層整群隨機抽樣方法，抽取江蘇省13個市共24665人，對20~59歲成年人進行問卷調查和體質測試，分析不同種類人群的肥胖特點，並採用多因素非條件Logistic 回歸分析方法篩選肥胖相關影響因素。

結果：趨勢面分析顯示，江蘇省成年人肥胖患病率整體呈現出西高東低、北高南低的地理分佈趨勢。江蘇省成年人肥胖率為10.6%。從20~49歲的男性肥胖率均高於女性（ $P < 0.05$ ），且無論城鎮還是農村，肥胖率均隨著年齡的增加而升高，50~59歲年齡組達到最高。多因素Logistic逐步回歸分析顯示，性別（OR=0.49，95%CI為0.44~0.54）、學歷（0.81，0.74~0.88）、慢性病（1.68，1.52~1.86）、社區公用健身設施（0.87，0.79~0.96）、上班距離（1.19，1.08~1.32）、生活壓力感（0.84，0.78~0.91）、睡眠時間（0.79，0.68~0.91）、閒暇時靜坐習慣（1.17，1.07~1.30）和體質等級（0.37，0.34~0.39）是肥胖的相關影響因素。

結論：江蘇省成年人肥胖患病率現狀和趨勢不容樂觀，肥胖率高於全國2010年平均水平。多種危險因素與肥胖相關，應儘快採取幹預手段，加強健康教育，提高居民體力活動水平和提倡合理膳食是預防肥胖的重要措施。

關鍵字：肥胖，患病率，成年人，危險因素，Logistic回歸分析

Abstract

Objective: To describe the epidemiological characteristics and relative impact factors of adults with obesity in Jiangsu province, and to provide a theoretical basis for the scientific guidance of treating obesity and reducing the risk factors.

Methods: With multi-stage randomized cluster sampling, 24665 cases were selected from 13 cities of Jiangsu province. National physical monitoring and questionnaire survey were performed on adults aged 20 to 59. The obesity features of different populations were analyzed and the possible influencing factors were screened by multi-factor non-conditional Logistic regression analysis.

Results: Trend surface analysis showed the overall prevalence of adult obesity in Jiangsu province was a gradual decreasing trend of the geographical distribution from west to east, from north to south. The obesity rate of adults was 10.6% in Jiangsu province. The obesity rate of male was higher than female from 20 to 49 yrs ($P<0.05$). The prevalence of obesity was increased with the age in urban and rural and the obesity rate in 50 to 59 yrs reached their peak values. The results of Logistic regression analysis showed that major risk factors influencing obesity were gender($OR=0.49$, 95%CI: 0.44~0.54), education(0.81,0.74~0.88), chronic disease(1.68,1.52~1.86), district public health facilities(0.87,0.79~0.96), distance to work(1.19,1.08~1.32), a sense of life stress(0.84, 0.78~0.91), sleep time(0.79,0.68~0.91), leisure-time sitting habits(1.17,1.07~1.30) and physical fitness levels(0.37,0.34~0.39).

Conclusion: The results indicated it allowed no optimism for the status and developing trend of adult obesity in Jiangsu province. The obesity rate of adult was higher than the 2010 level of all over the country. Many factors were related to adult obesity. Intervention should be taken to change this situation as soon as possible. Strengthening health education, improving the level of physical activity and advocating a reasonable diet should be important measures to prevent obesity.

Keywords: Obesity, Prevalence, adult, Risk factor, Logistic regression analysis

張家港市機關工作人員體質健康狀況研究

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Study on the Physical Fitness of Government workers in zhang jiagang

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摘要

為瞭解張家港市機關工作人員的體質健康狀況，為機關工作人員的健身指導工作提供科學依據，本文採用文獻資料、測量及數理統計等研究方法，對張家港市1896名機關工作人員進行相關體質測試。測試結果顯示：體側總體狀況良好，尤其在靈敏性、協調性位和肺活量等方面表現較為優秀，然而在骨密度、血管機能、脊柱機能及糖尿病風險評估測等方面存在較大的隱患。據此提出“牢固樹立‘健康第一’的理念和建立起‘終生體育’的意識”、“普及健身項目，制定合理的運動處方”、“建立完善‘制度管人’”的保障機制等相應的對策，以期為提高機關工作人員的體質健康水平作出貢獻。

關鍵字：張家港，機關工作人員，體質健康狀況

Abstract

In order to explore the current situation of government workers physical health status in Zhang jiagang city and provide scientific guide for their fit-ness exercise, Through using the method of literature, measurement and mathematical statistics and other research methods, tested on the physical fitness of 1896 office workersin Zhang jiagang City.

Test results show that: overall good side of the body, especially in agility, coordination, performance spaces and relatively good lung capacity, etc., but in bone density, blood vessel function, spinal function and diabetes risk assessment test so there is a big risk. Accordingly, that “firmly establish the ‘health first’ philosophy and to establish ‘lifelong sports’ consciousness,” “popular fitness programs, the development of rational exercise prescription,” “establish and improve ‘the system, people’” and other appropriate protection mechanisms response, with a view to enhance the authority of staff to contribute to physical health.

2000~2010年江蘇省大學生體質狀況的分析研究

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A Dynamical Analysis of the Constitution of the Collegian During 2000~2010 in Jiangsu Province

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摘要

研究目的：為揭示江蘇省大學生體質發展狀況和促進江蘇省大學生健康水平提供參考。

研究方法：利用2000年和2010年江蘇省大學生體質與健康調研的結果，對江蘇省19-22歲大學生的資料進行統計核對總和分析。

結果：

1. 江蘇省大學生身體形態發育水平不同程度提高；
2. 10年間江蘇省大學生的心肺功能明顯下降；
3. 10年間江蘇省大學生的身體素質出現較大的滑坡現象，在速度、耐力素質方面下降程度非常顯著。

關鍵字：江蘇省，大學生，體質

Abstract

According to the investigation data for the constitution of collegians in Jiangsu province, the author makes an analysis on the body shape, function and physical fitness development for the aged between 19 and 22 in order to provide scientific basis for improving collegians' constitution of Jiangsu Province. The results show that:

1. the collegian of Jiangsu Procince have rapidly developed in the body shape during the

past ten years;

2. their average growth rate of vital capacity is negative;
3. there is obviously trend of decline in physical fitness during 2000~2010

Keywords: Jiangsu province, collegian, constitution

常德市3~6歲幼兒體質現狀分析

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Analysis on Physique Present Situation of 3~6 Years Old Children in Changde City

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摘要

研究目的：探討常德市幼兒體質現狀，揭示幼兒生長發育的特點和規律。

研究方法：按《2010年國民體質監測工作手冊》的要求，從常德市城鄉隨機抽取1866名3-6歲幼兒進行體質測試，並向其監護人等進行問卷調查；用SPSS18.0統計軟件對其身體形態、機能、素質指標進行統計分析。

研究結果：男女幼兒身高、坐高、體重、胸圍、克托萊指數均隨年齡增大而增大，坐高指數、胸圍指數的平均數隨年齡增大而減小，這些指標平均數年齡組間的差異有顯著性或極顯著性；幼兒形態指標除坐高指數男女較一致外，餘多男性大於女性，城鎮大於鄉村。男女幼兒10m折返跑時間、雙腳連續跳時間和走平衡木時間均隨年齡增大而減小，網球擲遠和立定跳遠成績平均數均隨年齡增大而增大，年齡組間差異有極顯著性；10m折返跑時間、網球擲遠和立定跳遠成績男性優於女性，坐位體前屈成績女性優於男性，雙腳連續跳時間和走平衡木時間性別差異不明顯；坐位體前屈城鎮優於鄉村，其他素質指標城鄉差異不明顯。體質總分和體質合格率男性高於女性，城鎮高於鄉村，差異均有極顯著性。與2005年湖南省測試結果比較，除女性體重、男女BMI和皮脂厚度平均數小於2005年全省幼兒相應均數外，其他形態指標的均數均大於2005年全省幼兒相應均數，各素質指標也均優於2005年湖南省測試結果；常德市幼兒體質不合格率為13.9%，明顯低於2005年湖南省幼兒體質不合格率（24.62%）。

結論：常德市3-6歲的城鎮幼兒體質水平優於鄉村幼兒，男性幼兒體質水平優於女性幼兒；2010年常德市3-6歲幼兒體質水平高於2005年湖南省3-6歲幼兒體質水平，但不合格率仍較高，且女性高於男性，鄉村高於城鎮，這應引起足夠的重視。建議相關政府部門和社會組織要加強幼兒保健宣教工作的力度，提高社會、教師、家長，尤其是農村幼兒的家長和幼稚園對幼兒保健的認識，合理安排幼兒膳食和生活日程，增加幼兒身體活動時間和活動強度，進一步提高幼兒身體素質，改善幼兒體質狀況。

關鍵字：常德，幼兒，體質，監測，現狀

Abstract

Objective: To investigate the present situation of children's physique in Changde city, reveal the characteristics and regularity of children's growth and development.

Methods: according to requirements of "2010 national physical fitness monitoring Handbook", physical fitness of 1866 children aged 3-6 years who were randomly selected from the town and countryside in Changde city were tested, and their guardians were investigated. And indexes of body shape, function, quality were statistically analyzed with SPSS18.0 statistics software.

Results: The means of height, sitting height, weight, chest circumference and Quetelet index of the male and female children aged 3-6 years increased with age increasing, but sitting height index, chest circumference index decreased with age increasing, and these indexes average differences among age groups were significant or extremely significant. Except the sitting height index, male children's shape indexes were higher than female, and children's in towns were higher than those in countryside. The time for male and female children to run up and down 10m, continuous jump feet and walk balance beam decreased with age increasing, the distance means of throwing tennis ball and standing long jump increased with the age increasing, the differences among the groups were very significant. Male children achievements on run up and down 10m, throwing tennis ball and standing long jump were better than female, the achievements for female on sitting and anteflexion were better than male, the sex difference of achievements on continuous jumping feet and walking balance beam were not apparent, and the differences of quality indexes between the children in towns and in countryside were not apparent, except

achievements on sitting and anteflexion of children in town were better than those in countryside. Physical fitness scores and physical qualification rate of male were higher than female, children in town were higher than those in countryside, the differences were extremely significant. The morphological index averages of children in Changde city in 2010 were higher than the test results of Hunan Province in 2005, except the averages of female weight, BMI and skin fat thickness of male and female. The quality indexes were better than test results of Hunan Province in 2005. The physique unqualified rate of children in Changde city was 13.9%, and obviously lower than the unqualified rate (24.62%) of children in Hunan Province in 2005.

Conclusion: In Changde city, physique fitness level of children aged 3-6 in town was better than those in countryside, and fitness level of male was better than female. Fitness level of children aged 3-6 in Changde city in 2010 was higher than the test result of Hunan province in 2005, but the unqualified rate was still high, and the unqualified rate of female was higher than male, children in countryside were higher than those in town. It should cause enough attention.

Suggestion: relevant departments of government and social organizations should strengthen health care education, effort to improve awareness of social, teachers and parents on children health, especially rural children parents and kindergartens, and reasonably arrange children's meals and daily life, increase their physical activity time and activity intensity, further to improve their physical quality and physical condition.

Keywords: Changde, children, physical fitness, monitoring, present situation

2010年長沙市60~69歲老年人體質測試研究報告

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The Research Report of the Health Condition Examination of the Elderly between 60 and 69 in Changsha, 2010

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摘要

目的：通過綜合分析2010年長沙市60-69歲老年人的體質測試現狀及對比，對長沙市老年人的體質的現狀、特點和變化規律有一個比較全面、系統的瞭解，對進一步改善老年人體育鍛煉條件、環境，加強老年體育的組織管理，提供準確客觀的科學依據。

對象與方法：整群隨機抽取60-69歲長沙市老年城鄉居民。

1. 測試法，嚴格按照《2010年國民體質監測工作手冊》測試；
2. 數據統計法，採用SPSS17.0處理、分析；
3. 對比法，測試結果與2005年長沙市、湖南省測試結果；
4. 分析法。

結果：2010年長沙市60-69歲老年人體質優秀率為9.5%，良好率為18.25%，合格率為57.13%，不合格率為15.13%。

結論：與2005年長沙市和湖南省相比，優秀率和良好率下降，合格率和不合格率增加，城鎮老年人體質提高，農村老年人體質下降；體質總體水平略有下降。政府部門引起高度重視，增加體育設施等相關投入。充分運用媒體宣傳健身

科普常識及進行鍛煉方法的指導，增強老年人健康意識。

關鍵字：老年人，體質監測，測試結果，分析

Abstract

Objectives: Through an overall analysis and comparison over the health condition of the elderly between 60 and 69 in Changsha, 2010, we hope to have a more general and systematic understanding towards the current conditions, features and changing pattern of the elderly in Changsha. Thus, we can provide a suitable and scientific proof for the improvement of exercises condition and an enhancement of the management of public exercises.

Subjective and methods: Choose randomly among both urban and rural residents of the elderly between 60 and 69 in Changsha

1. Examining, in strict accordance with the Nation's Health Inspection Pamphlet in 2010.
2. Statistical method, adopt SPSS17.0 software to deal with and analyze statistics.
3. Comparison, compare the examination results with those in Changsha and Hunan, 2005.
4. Analysis method.

Results: among the elderly between 60 and 69 in Changsha ,the excellent rate is 9.5%, the good rate is 24.78%, the pass rate is 57.13%, the failure rate is 15.13%

Conclusions : In the whole , the average pass rate is lower compared to that in the year of 2005 in Changsha and Hunan, the excellent rate and the good rate is lower, while the pass rate and the failure rate is higher. The physical conditions of the cities and towns have improved while those of the elderly in rural areas have worsened. The overall physical condition level has decreased. The government should pay due emphasis on this and increase the input in sports facilities. Additionally, the function of the media should be fully utilized to guide citizens with PE knowledge and scientific training methods. The health consciousness of the elderly should also be enhanced.

Keyword: the elderly, health inspection, examination result, analysis

滄州市幼兒體質監測現狀及動態發展分析

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Analysis of the current situation and trend of Cangzhou early children constitution monitoring

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摘要

研究目的：人類體質學研究揭示3-6歲幼兒是人的體質發育的最快時期，幼兒時期身體健康發育是增強國民體質的基礎，幼兒時期體質監測發育規律的分析是國民體質研究的一項重要內容。本文試圖解析國家體育總局2000年，2005年，2011年三次國民體質測試數據，對滄州地區幼兒身體形態、機能、素質、發育現狀及發展變化規律進行分析研究。

研究方法：採用測量法和測試法收集資料，運用SPSS16.0統計軟件進行統計分析。

結果分析：滄州地區3-6歲男女幼兒身體形態四項指標均呈均勻增長趨勢，四項指標平衡發展，城市3-6歲男幼兒身高、體重、坐高、胸圍四項指標平均值均高於鄉村男幼兒。城市女幼兒前三項指標3-6歲平均值也均高於鄉村女幼兒，農村幼兒的胸圍發育快於城市，鄉男發育最快。城鄉男女幼兒四項形態指標按年齡比較，農村男幼兒各項指標的起點低，發育最快。農村男幼兒四項指標的起點均低於農村女幼兒，但發展快於女幼兒。城市男幼兒四項形態指標起點均高於女幼兒，且各項指標各年齡段均高於女幼兒。再次驗證，城鄉的生活環境、生活條件、生活水平、生活質量、衛生保健存在著差異，城市的生活指標要優於鄉村。四項指標的發展速度，城市女幼兒身高、坐高發展快於村女幼兒，體重、胸圍則

慢於農村；城市男幼兒身高發育快於農村，其他三項指標則慢於農村。

幼兒三項營養指數比較，城市大於鄉村，男女幼兒存在顯著差異，農村男女幼兒的差異最明顯。而女幼兒三項指數均好於男幼兒，符合女幼兒體質結構發育規律。克托萊指數隨年齡增長呈平緩增長趨勢，坐高身高比、胸圍身高比均隨年齡增長呈平緩下降趨勢。上述三項指標城鄉之間 $p>0.05$ 不存在顯著差異；男女之間具有顯著性差異（ $P<0.01$ ）。分析胸圍身高指數各年齡段數值得出，男幼兒大於女幼兒，而鄉村女幼兒大於城市女幼兒。

幼兒心率的發展變化呈波浪形增長，反映了心血管系統和機體組織發育適應規律，城市幼兒的心率高於鄉村幼兒，女幼兒高於男幼兒，說明農村幼兒心血管系統發育好於城市，男幼心血管系統功能優於女幼兒。

滄州地區城鄉幼兒身體形態指標、營養發育指標、素質指標、技能指標十年縱向比較顯示，城鄉生活水平、生活方式差異逐漸減小。同時反映2005年之後，滄州地區人民生活水平較之前有大幅提高。

關鍵字：幼兒，體質監測，現狀，動態發展，分析

Abstract

Subject: Anthropology research reveals 3-6 years old children's constitution is the fastest period of human body development, health of early childhood growth is to enhance the basis of the national constitution. Early childhood constitution monitoring and trend analysis is an important part of the constitution study. This article attempts to adapt the dates of 2000, 2005, 2011, three times the national constitution monitoring, and analysis variation regulation and growth trend of Cangzhou early children body shape, function, fitness.

Methods: Using Measurement and testing methods to collect data, take SPSS16.0 statistical software for statistical analysis.

Discussion and Results: Monitoring showed that four body shape indicators of Cangzhou 3-6 years of age children average development. There are balanced trend of the four indicators. Height, weight, sitting height, chest circumference of urban male 3-6 years of age children were higher than the average of rural men young children. The front three indicators of urban female 3-6 years old children were also higher than the average

female rural children, rural children's chest circumference faster than the urban trend. There are fastest trend in rural men. Comparing four morphological indicators of urban and rural men and women by age, rural male children start a low of level indicators, but get the fastest growth. Four morphological indicators of Male children in rural areas are lower than rural female children in starting period, but there are rapid growth trend in male children. Four morphological indicators of urban male children are higher than rural female children in starting point, and the indicators of all ages are higher than rural female children. It prove once again that difference between urban and rural in living environment, living conditions, living standards, quality of life, health care, life environment in urban are better than rural. For the pace trend of four indicators, growth of height, sitting height urban female young children are faster than one in rural areas, but weight, chest is slower one in rural areas. Increasing of height urban male children are faster than one in rural areas, But the other three indicators are slower in rural areas.

Comparing three of nutrition index, date of children urban is better than one in rural areas. There were significant differences between male and female children. Difference between male and female children in rural areas is the most obvious. Three indices of female children are better than male children, Meeting development regulation of female physical structure. Quetelet index (BIM) show a moderate growth trend with age growth, height and sitting height ratio, bust and height ratio is flat decline trend with age growth. Comparing the three indicators there is no significant difference ($p>0.05$) between urban and rural; but there are significantly different ($P < 0.01$) between male and female. Comparing chest and height index values of all ages, male children is better than female children, female children in rural children is better than female in urban.

Heart rate Early childhood changes in wavy shape, reflecting the trend of the the law of cardiovascular system development to adapt tissues development. Heart rate of the city children's is higher than rural children. Heart rate of female children is higher than male children. The development trend of rural children cardiovascular system is better than one in city. Cardiovascular system function of male children is better than female children.

Longitudinal comparison of indicator ten years in Cangzhou shows that difference of urban and rural child in indicator trend of shape, function, fitness is decline. Difference in living standards of, lifestyle differences of urban and rural is reducing. Date also reflect that living standards in Cangzhou people's has greatly improved after 2005.

Keywords: children, constitution monitoring, current situation, trend, analysis

廣東省成年人體質動態變化研究

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Research on Dynamic Change of Physical Fitness of Adults in Guangdong Province

摘要

1. 研究對象與方法：

1.1 研究對象：本研究以廣東省成年人（20~59歲）為研究對象，資料來源於廣東省2005年和2010年國民體質監測數據庫。

1.2 研究方法：

1.2.1 文獻資料法：查閱相關研究文獻，對相關的文獻資料進行收集和整理，瞭解體質研究現狀。

1.2.2 測試法：根據國家體育總局頒佈的《國民體質測定標準手冊》對20~59歲的廣東省城鄉居民進行身體形態、身體機能和身體素質等方面的測試。

1.2.3 數理統計法：收集、整理調查所獲得資料，採用SPSS11.5套裝軟體進行統計分析。

2. 研究結論：

2.1 與2005年比較，2010年廣東省成年人體質整體水平有所提高，體質水平達到“合格”以上的比例增長了2.3個百分點。

2.2 不同工作類型人群比較，體質水平達到“合格”以上水平的比例，城市非體力勞動者>城市體力勞動者>農民，城市非體力勞動者和城市體力勞動者差異較小，但兩者均明顯大於農民。與2005年比較，城市非體力勞動者體質水平提高幅度較大，農民提高幅度最小。

2.3 廣東省成年人體質水平存在明顯的區域性差異，珠三角地區明顯好於東西兩翼和山區，與2005年比較，珠三角地區成年人體質水平提高幅度明顯大於東

西兩翼和山區。

2.4 與2005年相比，超重和肥胖檢出率有明顯的提高，且男性增長幅度大於女性，男性在30歲之後，女性在40歲之後BMI增長較為明顯。

2.5 與2005年比較，成年人肺活量有下降趨勢，而臺階指數有較為明顯的提高。

2.6 與2005年比較，廣東省成年人俯臥撐（男）、1分鐘仰臥起坐（女）、縱跳和反映反應能力的指標選擇反應時有明顯的提高，但是握力和坐位體前屈等指標呈下降趨勢。

關鍵字：廣東省，成年人，體質，變化

Abstract

Based on database of Guangdong physical fitness surveillance in 2005 and 2010, Research on dynamic change of physical fitness of adults in Guangdong province had been carried out in this paper. The results indicate that the level of physical fitness was significantly enhanced, but the enhancing range was affected by factors such as living environment and region. The ratio of fat and overweight had significantly increased, and the increasing range of males is greater than females.

Keyword: Guangdong province, Adults, Physical Fitness, Dynamic Change

山東省煙台市3~6歲幼兒國民體質監測分析

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Monitoring Analysis on National Physical Fitness of Children Aged 3~6 in Yantai Region of Shandong province

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摘要

為了瞭解和掌握煙台市幼兒體育健康現狀和體質變化規律，科學評價幼兒人群的健康水平，本文運用比較法，對煙台市710名3-6歲幼兒體質現狀進行研究分析。結果表明：第一，煙台市城市幼兒身高、坐高均值明顯高於農村幼兒，而農村幼兒體重、胸圍、上臂皮褶厚度、肩胛皮褶厚度、腹部皮褶厚度均值明顯高於城市幼兒，說明城市幼兒心血管系統的發育好於農村幼兒。第二，煙台市男性幼兒身高、坐高、體重、胸圍均值明顯高於女性幼兒，上臂皮褶厚度、肩胛皮褶厚度、腹部皮褶厚度女性幼兒明顯高於男性幼兒，這與男性幼兒與女性幼兒的活動能力、體內脂肪消耗是相關的。第三，煙台市男女幼兒身高、坐高、體重、胸圍等隨著年齡增長不斷增加。上臂皮褶厚度、肩胛皮褶厚度隨著年齡的增長增長的幅度逐漸減少，腹部皮褶厚度增加幅度相對較大。心率是反映心血管系統的機能指標，幼兒的心率次數隨著各年齡段的增加呈現出下降的趨勢，這反映了內臟器官的發育和運動器官發育之間的適應關係。第四，煙台市城市幼兒立定跳遠、10米折返跑、走平衡木、雙腳連續跳調查結果均好於農村幼兒，而農村幼兒坐位體前屈、網球擲遠均好於城市幼兒。城市幼兒3歲後普遍上幼稚園，城市家長越來越重視孩子的早期培養，使得城市幼兒有更多的機會接受廣播體操、舞蹈等體育教育活動，城市幼兒身體素質教育意識增強。

關鍵字：幼兒，體質，煙台市

Abstract

In order to know the physical health condition and general pattern of fitness of children in Yantai region and make scientific evaluation on their health level, this paper studies and analyzes the physical fitness condition on 560 children aged 3-6 through using the method of comparison. The result shows : first, the height, and sitting height mean of Yantai city children was significantly higher than rural children, but the weight, chest, upper arm skinfold thickness, scapular skinfold thickness, and abdominal skin fold thickness of the rural children was significantly higher than the average urban child, this result shows that the vascular system development of the city child is better than rural children. Second, the height, sitting height, weight, and chest average of boy children was higher than female children, upper arm skinfold thickness, scapular skinfold thickness, abdominal skin fold thickness of girl children was significantly higher than boy children, it is related with girl and boy children's activity, body fat consumption . Third, the strength, speed and agility of upper and low limbs of rural children are better than that of urban children, while the flexibility is opposite.

Keywords: Shandong, children, physical fitness, Yantai

大學四年學生體質的變化特徵研究

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A Study on The Variation Characteristics of College Students' Physique During These Four Years' Study

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摘要

目的：瞭解大學生在校學習期間體質發展變化的特徵。

方法：選取我校2006年入校的大學本科生男女各1000名共計2000人，進行每學年一次的身體形態、機能和素質指標的跟蹤測試，得到全部四年有效數據的有1377人。各項指標由經過系統培訓的校醫院的醫生和體育學院的師生，參照2005年國家國民體質監測手冊規定的器材和測試方法進行測試，測試時間在每學年第二學期開學第三周時，利用外活動時間測試。所得數據經microsoft office excel 2003的分析工具“資料分析（data analysis）”進行分析處理。

結論：四年期間，男女大學生的身體形態指標呈逐年增長；身體機能和素質指標呈“梯形”發展，大學二年級達到大學生機能素質的“顛峰”，所有測試指標均無性別差異。

建議：加強學生的健身意識、終身體育觀的宣傳教育；體育教育在大學期間應貫穿始終，應多方面為學生參與和堅持身體鍛煉提供服務和支援；建立科學健身指導系統，在學生每年一次的體質測試中應及時給出健身指導意見或運動處方，使大學生的體育活動更具有針對性，保障學生體質發展的持續性。

關鍵字：大學生，學生體質，變化特徵

Abstract

Objective: The study is aimed to find out students' Physique Variation Characteristics in College.

Methods: The survey was conducted among 2000 students (male 1000 & female 1000) enrolled in our University in 2006. During the past 4 years, we have annually got those participants tested for these body shape、physical function and quality's data, of which 1377 are valid. The physical fitness tests were performed by our well-trained campus doctors and teachers and students from our Institute. Employing the instruments and test methods requiled in the 2005 edition of National Physique Monitoring Manual. Those students got tested in the 3rd week of the second semester of each academic year. And the data have all been analysed by the diagnostic tool "Data Analysis".

Conclusion: Students' body shape indexes have been increasing year by yeas; Physical function and quality have been in trapezoid development, with the former reaching climax at these second year. All the test indexes are free from gender differences.

Suggestions: Firstly, we should strengthen education on students' fitness and all-life physical education conscionsness. Secondly, physical education should be carried out throughout student' college life and mole related services and supports are essential for them. Thirdly, a scientific guiding system should be established to give timely advice or exercise prescription for students' annual test, so that these sports activities become mole. Oriented and the can maintain a sustainable physique development.

Keywords: College Students, Students' physique, Variation Characteristics

新疆少數民族大學生體質健康現狀分析與研究

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Analysis and Research of physical fitness of ethnic minority University students in Xinjiang

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摘要

學校體育是我國教育事業的重要組成部分，對國民體質的增強、健康水平的提高和生活質量的改善具有重要意義，國民體質健康水平是社會現代程度的重要標誌之一。大學生是祖國的未來和希望，他們素質的高低將直接影響我國未來的發展。本文採用文獻資料法、測試法、統計分析法和邏輯推理法，通過對新疆5所高校2006~2010級少數民族大學生《標準》測試數據進行數理統計與比較分析從中找出影響少數民族大學生體質健康主要的因素，並結合實際情況提出相應的建議。研究結果為：少數民族大學生男女生身高標準體重評價在正常值範圍內的比例偏少。少數民族大學生身體機能的指標測試總體平均水平上都在“良好”的範圍內，耐力項目1000米跑（男）、800米跑（女）總體平均水平較好，其中男生的優秀率比較高。男生的肺活量體重的平均指數等級的總體水平比女生要好，是處在“及格”的水平上。少數民族大學生身體素質總體平均水平上是在“及格”的範圍內，其優秀率比較低，不及格的比率偏高，女生略高於男生。

關鍵字：新疆，少數民族，大學生，體質健康

Abstract

School physical education in China is an important part of the national physique enhancement, health improvement and improved quality of life is important, the national society of modern physical health is an important indicator of the degree. Students are the future and hope that they will directly affect the quality of China's future development. In this paper, documents and materials, test methods, statistical analysis and logical

reasoning, by five universities in Xinjiang from 2006 to 2010 ethnic minority college students the “standard” test data for mathematical statistics and comparative analysis to find out the impact on physical health of minority college students. The main factors, combined with the actual situation to make recommendations accordingly. The results are that minority college students evaluate male and female students in the normal weight for height ratio below normal range. Indicators of minority students in physical function tests in the overall average level of “good” range, endurance 1000 m run (men), 800 meters (female) is better overall average, which is relatively high quality boys. Boys weight average lung capacity level is better than girls overall level, is in a “pass” level. Minority students overall average level of physical fitness in the “pass” range, the best rate is relatively low, the high failure rate, girls slightly higher than boys.

Keyword: Xinjiang, ethnic minority, university students, physical fitness

內蒙古19~22歲普通居民與在校大學生身體形態比較研究

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The 19~22 years old college students in the general population and comparative study of body shape in the Inner Mongolia

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摘要

一.研究意義：不同的生活方式可以對人體體質產生不同的影響，而身體形態即是體質的表現，也是影響體質變化的因素。19-22歲青年正是成長期向成熟期過渡的時期，也正是各方面產生差異的時期，本文旨在研究不同體育運動方式下19-22歲社會居民與高校在校學生身體形態的區別。

二.研究內容與方法：

1.資料來源：根據2010年全國學生、全國居民體質調研數據，隨機選出內蒙古各盟市19-22歲普通居民603人的測量數據，其中男306人，女297人，以及內蒙古師範大學、內蒙古大學、內蒙古農業大學三所高校19-22歲3091名在校本科生的測試數據，其中男生1600人，女生1592人

2.研究方法：

2.1 根據《學生體質健康測試細則》要求，對學生的身高、體重、胸圍、腰圍、臀圍、上臂皮褶厚度、肩胛皮褶厚度、腹部皮褶厚度等身體指標進行了測試和記錄，各項過程由各校體育教師人工完成。

2.2 運用SPSS13.0軟體採用ANOVA對各數據對普通居民、漢族學生、蒙族學生三組各項指標的差異性進行檢驗

三.對比結果：男普通居民、漢族學生、蒙族學生各組身高無差異。其他圍度指標除臀圍外，大學生兩個組均比普通居民組數值小，同時各部位皮摺厚度小於普通居民，體重也明顯小於普通居民組（ $p < 0.01$ ）。

女生除身高，腰圍，臀圍無差異外，其他指標均呈高度顯著性差異。但除女學生體重小於普通居民外，其餘圍度和厚度指標學生大於普通居民，而且呈高度顯著性差異（ $p < 0.01$ ）。

四.討論分析：在校大學生基本以學業為主，處於學校生活居多，參加社會實踐勞動相對較少，運動方式基本以體育鍛煉為主；而社會居民則基本脫離了學校生活，生活方式以社會實踐勞動為主。在這種生活方式影響下，19-22歲男社會青年身體形態的變化表現為各部位皮摺厚度增加，導致三圍相應增加，體重也明顯加大，這種變化與在校大學生產生了明顯差異，說明校園生活使男生體重得到了控制。

社會女青年除體重大於在校大學生外，皮摺厚度和三圍圍度都小於在校大學生。這可以表明社會女青年的肌肉充實程度好於在校女大學生。身高方面男女生各組間均無差異，說明不同生活方式對青年身高基本沒有影響，而對身體圍度和肌肉充實程度會產生影響。

五.結論：社會生活和學校生活影響下，內蒙古19-22歲社會普通居民與在校大學生身體形態多項指標產生差異，普通居民體重大於蒙漢族在校大學生；男社會青年三圍圍度和皮脂厚度大於在校大學生，女青年與男青年情況相反，三圍圍度和皮脂厚度小於在校女大學生。

Abstract

I. Significance of a study: Different lifestyles can have different effects on the human body, and body shape that is, physical performance, but also affect physical changes in the factors. 19-22 year olds is growing to maturity during the transition, it is also a difference in all aspects of the period, the paper aims to study the different sports mode 19-22 year-old community residents and university students of body shape in the difference.

II. Research content and methods:

1. **Source:** According to the 2010 National Student, the country's inhabitants physical research data, randomly selected 19-22 year-old Union City, Inner Mongolia, the ordinary residents of 603 measurements, 306 were male, 297 female, and the Inner Mongolia Normal University, Inner Mongolia University, Inner Mongolia Agriculture 19-22 year-old college three college undergraduates of the 3091 test data, including 1,600 boys and 1592 girls

2. Research Methods:

2.1 According to "test the student's health conditions," requirements, the student's height, weight, bust, waist, hip, upper arm skinfold thickness, scapular skin fold thickness, abdominal skin fold thickness and other physical indicators were tested and recorded, the process done manually by the school physical education teachers.

2.2 The use of SPSS13.0 software using ANOVA of the data on the general population, the Han students, Mongolian students in three groups of indicators to test differences

III. Comparison results: Male general population, the Han students, Mongolian students in each group no difference in height. Other indicators in addition to hip circumference, the students two sets of values that group than the general population is small, while the various parts of the skin fold thickness is less than the general population, body weight was significantly less than the general population group ($p < 0.01$). Except height, waist circumference, hip circumference no difference in girls, other indicators showed a highly significant difference. But in addition to body weight less than the general population of female students, the remaining circumference and thickness of the target students than the general population, but was highly significant difference ($p < 0.01$).

IV. Discussion and analysis: College students in basic to academic-based, mostly in school, participate in social work practice is relatively small, the basic movement pattern dominated by physical exercise; and community residents are basically out of school life, way of life based on social work practice. In this way of life under the influence of 19-22 year-old young male body shape changes in the social performance of various parts of the skin fold thickness, leading to measurements corresponding

increase in body weight also significantly increased, and this change resulted in significant differences in college students , indicating that the boys campus life weight under control. In addition to body weight than young women community college students, the skin fold thickness and circumference measurements are less than the college students. This shows that the muscles of young women to enrich the community level is better than female students in school. Height in boys and girls did not differ significantly among the groups, indicating a different way of life had no effect on youth height, and circumference of the body and muscles will have a substantial degree of influence.

- V. Conclusions:** The influence under Social life and school life of Inner Mongolia and the general population 19-22 years old community college students have a number of indicators of body shape differences in body weight than the general population of college students; men circumference and skinfold measurements greater than college students, young women and young men, in contrast, measurements of circumference and skinfold thickness is less than the female students in school.

重慶市2010年老年人體質監測結果分析

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Chongqing 2010 Monitoring Results of the elderly physical

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摘要

研究目的：瞭解和掌握重慶市老年人群體質的現狀特徵、存在的問題以及男、女體質變化規律。

研究方法：體質測定法、數理統計法、文獻資料法。

結果與分析：2010年重慶老年人達到《國民體質測定標準》“合格”以上標準的人數比例為94.7%。男性達到“合格”以上標準的比例為94.4%，女性為95%。城鎮人群達到“合格”以上標準的比例為91.9%，鄉村為97.1%。

與2005年相比，2010年全國達到《國民體質測定標準》“合格”以上標準的人數比例60~69歲老年人增長11.7個百分點。男、女性分別增長16.8個百分點和6.6個百分點。城鎮、鄉村分別增長4.45個百分點和18.55個百分點。

與2005年相比，2010年60~69歲老年男性的身高、體重、胸圍、腰圍、收縮壓、舒張壓、肺活量、坐位體前屈、閉眼單腳站立、等指標有所提高，幅度在0.09%~55.50%之間；臀圍、皮褶厚度（上臂部、肩胛部、腹部）、安靜脈搏、握力、選擇反應時等指標有所降低，幅度在0.93%~26.06%之間。

女性的身高、胸圍、腰圍、臀圍、收縮壓、肺活量、坐位體前屈、閉眼單腳站立等指標有所提高，幅度在0.07%~80.29%之間；體重、上臂部皮褶厚度、腹部皮褶厚度、肩胛部皮褶厚度、安靜脈搏、舒張壓、握力、選擇反應時等指標有所降低，幅度在0.18%~11.22%之間。

結論：身體形態特徵：重慶市老年人男子身高均值為162.49cm，女子身高均值為151.36cm。男子體重均值為62.10kg，女子體重均值為54.71kg。對胸圍、腰圍、臀圍和皮褶厚度（上臂皮褶厚度、肩胛皮褶厚度、腹部皮褶厚度）以及派

生指標的分析，顯示女性老年人臀圍及腹部皮褶的均值明顯大於男性，這表明女性老年人的向心性肥胖趨勢要大於男性。在派生指標中男子的克托萊指數、BMI指數、肺活量/體重指數、胸圍/腰圍*100指數的均值都大於女性，這揭示男性老年人要注意積極的參加體育鍛煉，以防心血管方面的疾病。身體機能特徵：男子平均肺活量為2426.39ml，女子平均肺活量為1730.41ml，男女之間有明顯的差異。在安靜脈搏指標上男女之間沒有明顯的差異，女性的安靜脈搏略高於男性。在血壓指標上，基本一致。身體素質特徵：女性坐位體前屈均值要明顯的高於男性，這表明在身體柔韌素質上女性要好於男性許多。男性老年人平均握力為35.33kg，女性老年人平均握力為22.66kg，男女之間有明顯的差異，這表明在身體力量素質上男性要好於女性。在閉眼單足立上男性要好於女性，相對而言，男性老年人的平衡能力要好於女性。從選擇反應時指標上看男性神經肌肉系統和動作綜合能力要好於女性。

關鍵字：老年人，重慶市，體質，監測

Abstract

Research purposes: To understand and master the quality of Chongqing current characteristics of older age groups, problems, and male and female physical changes in the law.

Methods: Determination of physical, mathematical statistics, documents and materials.

Results and analysis: The elderly in Chongqing in 2010 to achieve “national physique determining standards” “qualified” than the standard proportion of 94.7%. Men to achieve “qualified” than the standard ratio of 94.4%, females 95%. Urban population to reach “qualified” than the standard ratio of 91.9%, rural 97.1%.

Compared with 2005, 2010, the country to achieve “national physique determining standards” “qualified” than the standard proportion of people aged 60 to 69 increased by 11.7 percentage points. Male and female, respectively, an increase of 16.8 percentage points and 6.6 percentage points. Towns and villages were up 4.45 percent and 18.55 percent.

Compared with 2005, 2010, 60 to 69 years old male of height, weight, bust, waist circumference, systolic blood pressure, diastolic blood pressure, lung capacity, Sit and Reach, standing on one foot with eyes closed, and other indicators have improved, the range

of between 0.09%~55.50%; hip, skin-fold thickness (on the arm, scapular, abdominal), quiet pulse, grip strength, choice reaction time and other indicators decreased, the range of between 0.93% ~ 26.06%.

Women's height, bust, waist circumference, hip circumference, systolic blood pressure, lung capacity, Sit and Reach, standing on one leg with eyes closed, and other indicators have improved, the range of between 0.07% ~ 80.29%; weight, skin fold thickness on the arm, abdominal skin fold thickness, scapular skinfold thickness, quiet pulse, diastolic blood pressure, grip strength, choice reaction time and other indicators decreased, the range of between 0.18%~11.22%.

Conclusion:

Physical Characteristics: Chongqing elderly man stands mean 162.49cm, women's mean height 151.36cm. Men mean weight 62.10kg, mean female body weight 54.71kg. On the bust, waist circumference, hip circumference and skinfold thickness (upper arm skinfold thickness, scapular skinfold thickness, abdominal skin fold thickness) and derived indicators of the analysis show that women aged hip and abdominal skinfold was significantly greater than the average male, This indicates that the elderly women the trend to central obesity than men. Derived indicators in men Quetelet index, BMI index, vital capacity/body mass index, chest/waist * 100 index is greater than the average female, which revealed the men to pay attention to older people to participate actively in physical exercise to prevent cardiovascular disease. Physical function characteristics: men's average lung capacity of 2426.39ml, women's average lung capacity of 1730.41ml, there are significant differences between men and women. In the quiet pulse indicators no significant differences between men and women, women's quiet pulse of slightly higher than men. The blood pressure indicators, basically the same. 2. Physical characteristics: Sit and Reach of women was significantly higher than average men, suggesting that the quality of the physical flexibility of many women better than men The average grip strength of elderly men, 35.33kg, mean grip strength of elderly women, 22.66kg, there are significant differences between men and women, suggesting that the quality of men in physical strength is better than the women. Stand with one foot in the eyes closed is better than men on women, relatively speaking, men, elderly balance better than women. From the choice reaction time targets, and action men of the neuromuscular system is better than the comprehensive ability of women.

Keyword: The elderly, Chongqing, physical, monitoring

對南京市青少兒體質與健康現狀的調查分析與研究

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Nanjing Green Children of physical and health status of Investigation and Research

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摘要

以南京市13個區縣7-18歲中、小學學生為研究物件，對我市青少兒體質健康狀況的調查分析，並與2010年全國同齡學生平均值及2005年南京市同齡平均值相比較分析，結果顯示，我市青少兒總體水平高於全國同齡均值，但與2005年相比卻呈下滑趨勢。針對這一現狀，對學校提出減負，並保證學生一小時體育活動時間，定期開展青少年的體質監測等建議，目的是提高我市青少兒體質健康，從青少年抓起，進一步提高我市體質健康總體水平。

關鍵字：南京市，體質健康，青少兒

Abstract

13 districts and counties of Nanjing 7-18 years old primary and secondary students for the study, young children's physical fitness for the city health survey analysis, and students with their peers nationwide average in 2010 and 2005 compared with the average age of Nanjing analysis showed that young children's overall level of the city higher than the national average age, but actually was in decline compared to 2005. In response to this situation, proposed reducing the burden on schools and ensure students one hour time physical activity, regular monitoring of young people's physical proposals designed to improve the city's young children's physical health, start from the young to further enhance the city's physical the overall level of health.

Keyword: Nanjing, physical and health, Green Children

2000~2010年湖南省土家族成年人體質狀況的比較研究

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A Comparative Analysis on the fitness of Adults of Tujia Nationality during 2000~2010 in Hunan Province

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摘要

目的：瞭解湖南省土家族成年人體質狀況變化，分析影響因素，增強其體質健康，同時也為經濟欠發達地區少數民族成年人體質健康促進提供參考。

對象與方法：以2010年、2000年湖南省湘西土家族苗族自治州、張家界市國民體質監測數據庫中的土家族20-59歲成年人為研究對象（2010年4932人、2000年3967人），採用文獻資料法、體質測試法、問卷調查法等。數據的檢測、檢查驗收、評價等均嚴格按照國家體育總局國民體質監測中心《2010年國民體質監測工作手冊》規定。

結果：

1.十年間，湖南省土家族成年人的形態指標均有不同程度的提高（女性35-39歲時的身高、男性40-44歲、50-54歲時的臀圍除外，略有下降，但無統計學差異），增幅在0.03%-21.64%之間，增幅最大的為皮褶厚度，體重和腰圍的增幅也較大。

2.十年間，湖南省土家族成年人血壓增加，增幅在0.01%-5.55%之間，增幅較大者為40-59歲女性的收縮壓；舒張壓變化幅度低於收縮壓。臺階指數和肺活量下降（男性45-59歲間的肺活量增加），其中男性20-44歲、女性各年齡段的臺階指數、男性25-34歲、女性30-39歲、40-59歲的肺活量均顯著下降（ $P < 0.05$ ），其他有下降趨勢，但無統計學差異（ $P > 0.05$ ）。降幅最大者為20-39歲成年人的臺階指數，男性為8.71%，女性為7.63%。

3.十年間，湖南省土家族成年人坐位體前屈顯著下降（男性50-54歲、女性40-44歲除外）；男性25-59歲、女性45-59歲的閉眼單腳站立時間顯著減少，其

他年齡段有下降趨勢，但無統計學差異 ($P>0.05$)；男性35-39歲、55-59歲、女性30-49歲的選擇反應時顯著延長 ($P<0.05$)；男性25-39歲、女性20-34歲的背力顯著增加 ($P<0.05$)；男性40-44歲的握力顯著增加，55-59歲略有下降，其他均略有增加 ($P>0.05$)，女性30-39歲的握力顯著減少，其他略有下降 ($P>0.05$)；男女性的縱跳20-29歲均增加，30-39歲均減少 ($P<0.05$)。變化幅度較大者為坐位體前屈。

結論：十年間，湖南省土家族成年人身高、體重、三圍、皮下脂肪等形態指標增加，心肺功能下降，柔韌性、平衡性、靈敏性和下肢力量下降，男性上肢、腰背部力量增加，女性腰背部力量增加，上肢力量下降。這是人們生活水平提高，體力活動減少，閒暇時靜態活動增多的結果。因此政府和有關部門應通過各種管道宣傳，增強健康和健身意識；並提供多種鼓勵措施；充分發揮國民體質評定和監測工作；充分利用和發展少數民族傳統體育項目特點開展群眾體育活動，增強國民體質。

關鍵字：湖南，土家族，成年人，體質

Abstract

Purpose: In order to master the change of physical fitness of adults of Tujia nationality in Hunan Province, and provide certain reference for promoting physical health of minority group.

Objects & Methods: Taking 4,932 adults in 2010 and 3967 adults in 2000 of Tujia nationality between age of 20 and 39 from Xiangxi Tujia & Miao Autonomous Prefecture and the City of Zhangjiajie in national physical detection database as the research objects, and adopting questionnaire method, physical measurement, and mathematical statistic method, etc.

Results:

1. The physical featur of aadults of Tujia nationality increased in 10 years, except female height of aged 35-39, male hip circumference of aged40-44, 50-54.The rate of increase is between 0.03% and 21.64%.The highest rate is skin-fold thickness, then is weight and waist circumference.
2. In 10 years, the blood pressure of adults' of Tujia nationality increased, The rate of

increase is between 0.01% and 5.55%. The highest rate is systolic pressure of female aged 40-59, the change rate of diastolic pressure is lower than that of systolic pressure. Step test indexes and lung capacity decreased, except the lung capacity of male aged 45-59. the step test indexes of male aged 20-44\female aged all and lung capacity of male aged 25-34, female of 30-39, 40-59 decreased significantly ($P < 0.05$) The highest rate of decrease is the step index of adults aged 20-39, that of male is 8.71% and that of female is 7.63%.

3. In 10 years, the sit and reach of adult of Tujia nationality decreased significantly (except that of male aged 50-54, female aged 40-44); the time of stand on one leg and eye closed of male aged 25-29\female of 45-59 decreased significantly, and others decreased insignificantly ($P > 0.05$). Choice reaction time of male age 35-39\55-59\female aged 30-49 prolonged significantly ($P < 0.05$). back strength of male aged 25-39\female aged increased significantly ($P < 0.05$). The power of gripping of male aged 40-44 increased and that of female aged 30-39 decreased significantly ($P < 0.05$). The highest change rate is the sit and reach.

Conclusion: during 10 years, the physical feature of adults of Tujia nationality increased, such as height, weight, waist circumference, skin-fold thickness. the function of heart and lung decreased. Flexibility, balance, sensitivity and lower limbs decreased, the strength of upper limb and waist and back of male increased, and the strength of waist and back of female increased and strength of upper limb decreased.

Keywords: Hunan Province, Tujia Nationality, Adults, fitness

2001~2010年山西省成年人身體機能變化特徵研究

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**Shanxi Province from 2001 to 2010 changes in physical function
characteristics of adults**

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摘要

運用文獻資料法、測試法以及數理統計法等方法對2001年至2010年山西省成年人身體機能進行了縱向比較研究。結果表明：山西省成年人2001年至2010年身體機能變化呈現“V”字型結構，即2001年和2010年成年男女的機能水平較高，2005年的機能水平相對較低。具體特徵表現為成年男女的安靜心率變化幅度較為穩定，基本上處於76~79次/分之間；男子的收縮壓在116~122mmHg之間，女子在107~120mmHg之間；男子的舒張壓在75~81mmHg之間，女子在70~78mmHg之間；男子的肺活量在3112~3661ml之間，女子在2095~2802ml之間；成年男子的臺階指數在55~59之間，女子在56~60之間。

關鍵字：機能，成年人，變化特徵，山西省

Abstract

The use of literature and data, test methods and mathematical statistics and other methods of 2001-2010 adult body functions Shanxi Province conducted a longitudinal study. The results showed that: Shanxi adults from 2001 to 2010 show changes in body function “V” shaped structure, that is, 2001 and 2010 adult men and women of the higher level of function, the function of the level in 2005 is relatively low. Specifically expressed in resting heart rate for adult men and women of the magnitude of changes is more stable, basically in the 76 to 79 beats / min between; man in the 116 ~ 122mmHg systolic blood pressure among women between the 107 ~ 120mmHg; men’s diastolic blood pressure at 75 ~ 81mmHg between the woman between 70 ~ 78mmHg; man’s lung capacity in 3112

~ 3661ml among women between the 2095 ~ 2802ml; adult male level index between 55 to 59, women between 56 to 60 .

Keywords: function, adults, variation, Shanxi

2010年武漢市城鄉成年男性中心性肥胖流行現狀及其體質狀況分析

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Analysis of epidemiological status of central obesity in male adult and the physical fitness condition in Wuhan in 2010 year

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摘要

目的：瞭解2010年武漢市城鄉20~59歲成年男性中心性肥胖流行現狀及其體質狀況，為預防中心性肥胖及提高其體質與健身指導提供依據。

方法：根據《2010年國民體質工作手冊》要求進行抽樣與體質指標測試，以腰圍判斷是否中心性肥胖，分析其在不同年齡、工作種類、BMI中的流行現狀，並與其非中心性肥胖人群進行體質合格率、體質指標平均值的比較。

結果：武漢市城鄉成年男性中心性肥胖率為44%，以鄉村體力人群中的中心性肥胖率最低，城鎮體力與城鎮非體力人群比較沒有顯著差異性，在BMI<24時，有13.8%的人群處於中心性肥胖。除選擇反應時、肺活量外，兩者的其他體質指標都具有顯著性差異。

結論：中心性肥胖在武漢市城鄉成年男性中的檢出率高。在體質測試指標中，雖然中心性肥胖者的身體形態指標高於非中心性肥胖者，但其除力量素質較好、反應能力相當外，其他的身體素質與機能指標狀況較非中心性肥胖人群差，提高其素質與機能是其健康中急需解決的問題。

關鍵字：成年男性，中心性肥胖，體質

Abstract

Objective: Analyse the epidemiological status of central obesity and the physical fitness condition in 20~59 year old male adult in Wuhan in 2010 year, in order to provide the scientific evidence to health care policy made for the control of central obesity and physical practice among man adult .

Method:The database was devided from the national physical fitness surveillace database in hubei province in 2010 year,the central obesity and un-central obesity were defined by waistline value,then analysed the epidemiological status of central obesity in different age, job category and BMI, also compared the percent of pass in physical fitness and the average value measued in the physical fitness separately with un-central obesity.

Result: The prevalence of the central obesity was 44%,it's lowest in labour men in rural area compared to the city.There were 13.8% BMI<24 people in central obesity. The average values were significance except the choice reaction time and vital capacity.

Conclusion: The prevalence of the central obesity was high in 20~59 year old male adult in wuhan in 2010 year.The physical fitness in central obesity men was poorer except the reaction and strength ability compared to the un-cental obesity men, the compelling problems need to be solved in the central obesity men w as to develop their body performance.

Keywords: Male adult, Central obesity, Physical fitness

2010年湖北省城鄉幼兒體質水平的比較分析

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A Compared Analysis of the Constitution Level of Urban and Rural Hubei Children in 2010

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摘要

目的：分析比較幼兒體質的城鄉差異，為幼兒的生長發育和教育評價提供參考資料。

方法：根據2010年湖北省國民體質監測幼兒部分的測試結果，對其形態、機能和素質等10項指標進行分析比較。

結論：湖北省農村幼兒總體體質達標率已基本趕上城市幼兒。農村幼兒的身高同城市幼兒無顯著性差異，但體重、胸圍及安靜心率均低於城市幼兒。農村幼兒上肢力量及平衡能力明顯優於城市幼兒，下肢力量、柔韌性、敏捷性與城市幼兒無異。

關鍵字：幼兒，城鄉，體質水準

Abstract

Objective: Analysis the differences of children's constitution between urban and rural areas, for children's growth and development and education evaluation provide reference material.

Method: According to the result of the Hubei Province tests in 2010, their 10 indicators, including body shape, function and quality of analysis in this comparison.

Results: Children in rural Hubei Province, the overall rate of basic constitution standards catch up with urban children. Rural children's height with city children has no significant

difference, but the body weight, chest circumference and quiet heart rate were lower than that of the city young children. Upper body strength and balance ability of rural children was significantly better than urban children, but their lower extremity strength, flexibility, agility and urban children is no different.

Keywords: Children, Urban and Rural, Constitution Level

成都市成年人體質相關影響因素探討

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The Analysis on Factors Related to Adult Physical Fitness in Chengdu

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摘要

目的：通過對2010成都市國民體質監測成年人體質測試結果進行系統分析，進一步瞭解成都市成年人體質現狀和特徵。

方法：以2010年成都市國民體質監測20~59歲成年人作為研究人群，選取體質評價等級百分比作為研究指標，分性別、城鄉和年齡段對數據進行統計分析。

結果與結論：2010年成都市成年男性體質總合格率為73.9%，女性體質合格率为75.5%，成年女性的體質略好於男性。隨年齡增長，男性和女性總合格率均成“V”型，男性和女性總合格率分別在45~49歲和40~44歲達到最低點。鄉村人群總合格率為67.6%，城鎮體力勞動者的總合格率為83.6%，城鎮非體力勞動者的總合格率為72.9%；參加體育鍛煉的成年人總合格率和不參加鍛煉的成年人總合格率分別為82.2%和72.1%；偏瘦、超重和肥胖人群總合格率要低於體重正常人群。

關鍵字：體質，影響因素，成都，體質評價等級

Abstract

Purpose: Through the systematic analysis on the indices obtained in the 2010 National Fitness Monitoring in Chengdu on 20-59 years old adults, this article tries to study quo and characteristics.

Results: The male adults' total pass rate of physical fitness is 73.9% in Chengdu in 2010, and the female adults' total pass rate is 75.5%. With ageing, the male and female adults'

total pass rate shaped “V”. 45-49 years old men and 40-44 years old women both reach the lowest point. Urban labor workers' total pass rate of physical fitness is 83.6%, farmers' is 67.6%, urban non-labor workers' is 72.9%. The total pass rate of physical fitness of the adults who participate in exercise is 82.2, higher than it of the adults who do not do exercise. Moreover, underweight, overweight and obese adults' total pass rates are lower than the normal-weight people.

KeyWords: Fitness, Factors, Chengdu, Level of physical evaluation

湖南省不同經濟水平城市3~5歲城鎮幼兒體質現狀比較

韓哲

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The Economic Regional Difference Comparison of Physical Fitness Condition of Children Aged From 3~5 Years Old in Hunan Province

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摘要

目的：幼兒階段是身體發育的快速時期，體質的好壞直接影響成年後的體質狀況，本研究試圖揭示不同經濟水平城市幼兒的體質特點及其對幼兒體質的發育影響。

方法：通過2010年湖南省各地級市3-5歲城鎮幼兒體質調研的基本資料和近三年的湖南省各市GDP總值排名，對經濟發達城市長沙、經濟一般城市湘潭、經濟欠發達城市湘西自治州三地幼兒體質現在進行比較研究分析。

結果：湖南省3-5歲城鎮幼兒身體形態與經濟發展不同程度趨勢相似，具有明顯的差異。經濟發達城市幼兒身體形態方面明顯好於經濟一般城市和欠發達城市，但身體機能和身體素質方面情況正好相反，經濟發達地區幼兒差於經濟一般和欠發達地區。

關鍵字：經濟水平，身體形態，身體機能，身體素質

Abstract

Purpose: Children is an important period of one's life in which one is growing very rapidly, one's physique in childhood will decide one's physique in adulthood. This research attempts to reveal the different economic regional children's physical characteristics and Impact of physical development of children.

Method: Through analyzed the physiques situation of 3-5 years old infants in Hunan province and the last three years GDP of Hunan province, comparing the physical fitness

of children among the cities of different economic levels.

Conclusions: The result shows that body shape was similar with the different levels of economic development, and has significant difference. In the economically developed cities the body shape of children was significantly better than the general cities and the less developed cities. But the condition of physical function and quality was reversed, the physical function and quality was less than the general region and less developed regions.

Keywords: body shape, physical function, physical quality

甘肅省成年人體質特徵分析

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Adult physique characteristic analysis of gansu province

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摘要

研究目的：體質評定是國民體質監測和測試中的一個重要環節，它是按照政府或社會團體制定的體質量化評定標準對國民的體質狀況和鍛煉效果進行評級，使國民一目了然地明白自己的健康狀況，從而引導民眾積極進行體育健身活動，達到增強體質與提高健康水平的目的。通過對甘肅省20~59歲成年人體質監測結果評價分析，旨在瞭解現階段甘肅成年人的體質現狀與特徵，為進一步推動群眾體育工作的開展，科學指導群眾進行體育健身服務。

研究方法：

1. 數理統計法：採用SPSS13.0對2010年甘肅省國民體質監測資料進行處理，按照《國民體質測定標準》分別計算不同年齡、性別、職業、學歷、鍛煉與不鍛煉等人群的體質達成率，並對其進行對比分析。

2. 文獻資料法：查閱國內有關體質評價與分析的資料。

主要結果：

總體情況：甘肅省88.6%的成年人體質達到合格以上標準，其中達到優秀的占10.1%，良好的占25.0%，合格的占53.4%，11.4%的成年人體質未達到合格標準。與2000年、2005年監測結果相比，達到良好、合格以上等級的人數比例呈現不斷升高的趨勢，表明甘肅成年人體質狀況較十年前已有很大改觀，成年人的體質水平明顯提高

特徵：不同年齡成年人的體質水平呈現中間高，兩頭低的趨勢；女性體質狀況好於男性；城鎮人口體質水平明顯好於鄉村人口；辦事員、管理人員、專業技術人員體質水平優於設備操作人員、服務人員、農林牧漁人員；高學歷人群的體質狀況明顯好於低學歷人群；經常鍛煉者的體質狀況明顯好於不鍛煉者；以靜坐、伏案為主要工作方式人群體質水平好於靜坐伴有上肢活動、以站立為主和從事搬運、挖掘工作者；體重正常人群體質水平好於超重人群、體重過輕人群、肥胖人群；閒暇時進行中、小強度體育鍛煉人群的體質合格率高於從事輕度家務勞動者，從事大強度、中等強度體育鍛煉人群體質優秀率高於小強度鍛煉和輕度家務勞動者；

結論：甘肅成年人體質的總體水平較好，十年來呈現不斷提升的趨勢。成年人的體質具有明顯的性別、城鄉、職業、學歷等特徵。城鎮人群，高學歷人群，管理、辦事、專業技術人員，經常鍛煉人群的體質水平較好。成年人的體質水平與生活方式、體育意識、健康知識、工作環境、工作性質、生活水平等具有非常密切的關係。

關鍵字：甘肅省，成年人，體質特徵

Abstract

1. Objective:

Physical evaluation is civil constitution monitoring and testing one of the important links, It is according to the government or social organizations of quantitative evaluation standard for constitution on national physique condition and exercise the effect to ratings, The national clearly understand his own health so as to guide people to carry out actively sports fitness activities and achieve enhanced physique and to improve the health level of purpose. In gansu province through 20 and 59 years old adults constitution monitoring result analysis, is to understand the present situation and the health of the gansu province adults characteristics, in order to further promote the development of mass sports work, scientific guiding the fitness services.

2. Research methods:

Statistics: the SPSS13.0 to gansu province in 2010 civil constitution monitoring data processing, According to the national physique determination standards of different age and sex are calculated respectively, occupation, education, training and not of

exercise of constitution in population of success rate, and carries on the contrast analysis.

The literature material method: refer to the relevant domestic physical evaluation and analysis of data.

3. Main outcome:

3.1 Overall situation: Gansu province 88.6% of adults are qualified standard of physical above, Among them to achieve outstanding accounts for 10.1%, good 25.0%, qualified 53.4%, 11.4% of adults' is not up to standard. And in 2000, in 2005 compared with the results of monitoring, to good, qualified or above level on the percentage of the rising trend, Show that adults' physical condition in gansu province is ten years ago has very powerful, adult physique level obviously improved

3.2 Characteristic: Adult physique level among present high, two head low trend; Female physique condition better than men;The urban population physique level was significantly better than rural population; Clerk, management personnel, professional technical personnel physique level than equipment operators, service personnel, agriculture, forestry, fishery workers; Highly educated people's physique condition was significantly better than low academic crowd;Often the exercisers' physical condition was significantly better than the exercisers not;In meditation, bend over as the main way of working the crowd physique level to sit with good upper activities, mainly to stand and engaged in handling, mining workers; People of normal weight physique level in overweight people, good weight gain crowd, obese people;Their leisure time and low intensity physical exercise in the constitution qualified rate was higher than in mild housework laborer, Engaged in the great strength, moderate intensity exercise crowd physical excellence rate higher than low intensity exercise and mild housework laborer;

4. **Conclusion:** Gansu adults' physical level of the general good, and ten years to present constantly improving trend. Adult physique has obvious gender, urban and rural, occupation, education features. Town people, educated, management, handle affairs, professional and technical personnel, exercise regularly crowd of physique level is good. Adult physique level and way of life, sports consciousness, health knowledge, working environment, such as the nature of work and living standard have very close relationship.

Keyword: gansu province, Adult, physique characteristic

廈門市20~39成年人骨密度及其與部分體質指標關係的研究

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A Study on Bone Mineral Density and Relationship with Physical fitness in Xiamen Adults

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摘要

研究目的：骨峰值與骨質疏鬆的發生密切相關，骨峰值越高，骨質疏鬆的發生危險性也就越小。本文通過研究20~39歲人群骨密度的變化規律，以及骨密度與某些形態、素質、機能指標的關係，以期在人體骨量增長期及穩定期對骨密度進行有效地幹預，提高骨峰值，增強骨密度，預防骨質疏鬆。

研究方法：研究物件為廈門市20~39歲健康成年人713人（男317，女396），按男女分成8個年齡組。使用Sonost-2000超聲骨密度儀測定跟骨超聲參數，將獲得的骨密度參數與國民體質標準測試中的部分體質指標以及派生指標進行Person相關分析。所有數據均在SPSS18.0統計軟體中進行處理。

研究結果：

1. 廈門市20~39歲成年人SOS值在20~24歲組達到峰值並隨著年齡的增加而減少；BUA值20~24歲組最高，30~34歲組次之；BQI值25~29歲年齡組最高，隨後呈下降趨勢。

2. 隨著年齡的增加，廈門市20~39歲成年男性與女性骨質疏鬆發生率均呈現上升趨勢，且20~24歲以後男性骨質疏鬆發生率大於女性。

3. 形態指標與骨密度的相關分析表明女性上臂部皮褶厚度與BUA呈正相關關係。機能指標中男性肺活量與SOS、BUA呈正相關關係，肺活量體重、臺階指數與SOS呈正相關性。素質指標中男性縱跳與SOS、BUA呈正相關關係，俯臥撐與SOS、BUA、BQI呈正相關關係；女性仰臥起坐與SOS、BUA、BQI呈正相關關係。

結論：

1. 廈門市20~39歲成年人骨密度水平偏低，骨量減少及骨質疏鬆的發生率較高。
2. 廈門市20~39歲成年人隨著年齡的增長，骨質疏鬆發生的危險性增加，而20~24歲以後男性骨質疏鬆發生的危險性大於女性。
3. 成年女性保持一定的體脂含量有利於增強骨密度，男性的下肢爆發力和肌肉耐力、女性的腹部肌力的增強有利於骨密度和骨強度的提高，心肺功能的提高有利於增強男性的骨密度。

關鍵字：骨密度，身體形態，身體機能，身體素質

Abstract

Objective: Peak bone mass (PBM) is highly correlated with Osteoporosis, the higher the PBM, the lower the rate of osteoporosis. The paper investigates the change of Bone Mineral Density (BMD) in 20-39 years old adults of Xiamen city and the relationship of BMD and certain body shape, function and quality, to improve PBM effectively during the bone quantity growing period and the stability period, and to prevent osteoporosis.

Methods: The 713 healthy adults (317males, 396females) aged from 20-39 from Xiamen city, that being classified into 8 groups according to sex and age were measured. Calcaneal BMD was measured

by Sonost-2000 Imaging Bone Ultrasonometer(including Speed of sound, broadband ultrasonic attenuation and quantitative ultrasound index). According with the national standards, the indicators were accessed as follows: height, weight, skinfold, grip, back strength, push-up(male), sit-up(female), vertical jump, stork stand with closed eyes, vital capacity and step test index. The following derived indicators were obtained: BMI, vital capacity/weight, grip/weight, grip/height, backstrength/weight, back strength/height. The database was analyzed with SPSS13.0: independent-Samples T Test, Bivariate Correlate were used.

Results:

1. The SOS peak could be seen in 20~24 years old group for Xiamen adults. Afterwards

SOS diminished with increasing age. BUA diminished after 30-34years old. The BQI peak could be seen in 25~29years old group for Xiamen adults and then diminished with increasing age.

2. The rate of osteoporosis increases with age, and men are obviously higher than women after 20-24years old.
3. The biceps skinfold of women was positively correlated with BUA ($P<0.05$). But there weren't correlated remarkably between body shape and BMD in men. Also, the vertical jump of men was positively correlated with SOS, BUA and push up of men, sit up of women were positively correlated with SOS, BUA and BQI ($P<0.05$). But there weren't correlated remarkably between other body function indexes and BMD in adults. Vital capacity was positively correlated with SOS, BUA and vital capacity /weight, step test index were positively correlated with SOS, BUA and BQI in men ($P<0.05$).

Conclusions:

1. Xiamen Adults aged 20 to 39 years old have low BMD, the prevalence of bone mass decrease and OP are high.
2. The osteoporosis of fatalness will increase with age, and men are obviously higher than women after 20-24years old.
3. For women, BMD will enhance with the increase of the biceps skinfold and the strength of abdominal. For men, the increase of the lower - limb explosive strength and the muscle endurance as well as the cardiorespiratory fitness will enhance BMD. The fracture of fatalness will decline.

Keywords: Bone Mineral Density (BMD), body shape, body function, body quality

河北省公務員體重指數（BMI）、體脂率和腰臀比的變化分析

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Study of BMI, WHR and percent body fat of civil servants in Hebei

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摘要

目的：通過測試體成分來瞭解河北省公務員的肥胖程度，以年齡段分組討論其體重指數（BMI）與體脂百分率和腰臀比的相關性，為肥胖幹預和提高健康水平提供參考依據。

方法：對206名省直機關公務員進行體質檢查和體成分測定，對得到體重指數（BMI）、體脂百分率和腰臀比等數據，根據不同的性別、年齡段進行數據分析。

結果：各項測量數據均存在性別差異性，除體脂百分率外，其他各項指標男性受試者均高於女性。男性受試者平均BMI值為 25.93 ± 3.08 ，女性受試者平均BMI值為 22.56 ± 3.10 。男女受試者的腰臀比均處於臨界值，屬於中心性肥胖高風險人群。在所有的受試者中，數據結果顯示52.5%的男性公務員為超重，21.3%的男性公務員為肥胖，僅有26.3%體重正常。與男性相比，女性公務員情況較為樂觀，大部分體重正常（73.9%），同時仍存在19.6%的女性公務員超重和6.5%肥胖。且隨著年齡的增長，受試人群的腰臀比和體脂百分數在不斷增加，男性受試者BMI值明顯超標。

結論：河北省公務員中超重和肥胖人群比例較高，需加強鍛煉，控制飲食，以提高健康水平。

關鍵字：體重指數（BMI），腰臀比，體脂百分率，公務員

Abstract

Objective: To explore body composition and obesity levels of civil servants in Hebei province, and to analyse the correlations between age and BMI, body fat percentage and WHR.

Methods: Percent body fat was achieved by using body composition analyser; Height, weight, waist circumference and hip circumference were measured. Data collected was analysed by SPSS.

Result: Along with the increase of age, WHR and percent body fat were increased, and BMI of male participants was either overweight or obese.

Conclusion: Among civil servants in Hebei province, the proportion of overweight and obesity was high. It was necessary to improve physical activity and diet, in order to promote health.

Keywords: body mass index (BMI), WHR, percent body fat, civil servant

上海市2010年20~39歲城市人群飲食、睡眠等生活狀況與肥胖關係的研究

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Research on the Relation of Diet, Sleep and Other Living Conditions to Obesity of 20~39 years old urban population in Shanghai in 2010

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摘要

研究目的：肥胖已經嚴重威脅到人們的健康，其中社會環境因素是其中最重要因素之一。本研究通過較大樣本人群的調查研究，分析飲食、睡眠等生活狀況因素與肥胖的關係，以期為城市青年人群預防肥胖提供依據。

研究方法：以2010年國民體質監測中上海市20~39歲城市成年人群為研究對象（總共7949人，其中男性3982人，女性3967人）。測試指標包括身高、體重和體重指數（BMI）。問卷調查指標選取受試者的年齡；通常每週吃早餐的次數；通常每週外出就餐（超平時飲食量）天數；是否食用油炸食品、甜食、速食麵、碳酸飲料、洋速食、膨化食品；每週食用上述不健康食品天數；通常每天（包括午睡）睡眠時間；是否經常熬夜；是否感覺有壓力等。

結果：

1. 每週早餐次數、是否食用不健康食品、每天睡眠時間、是否感覺有壓力、年齡等因素均是影響上海20~39歲城市男性人群BMI值的主效應，其中每週早餐次數、是否食用不健康食品、每天睡眠時間、年齡這四個因素在統計學上達到非常顯著性水平（ $P < 0.01$ ）。除了年齡之外，沒有其他因素是影響該女性人群BMI值的主效應。

2. 男性每週早餐5~7次人群超重率（35.6%）明顯高於早餐0~1次（22.40%）和2~4次人群（28.20%）（ $P < 0.01$ ），男性每週早餐5~7次人群的

肥胖率（13.2%）也明顯高於早餐2~4次人群（9.1%）（ $P < 0.05$ ）；每天不同早餐次數的女性人群之間超重率和肥胖率無顯著性差異（ $P > 0.05$ ）。

3. 無論是男性還是女性，每週外出就餐不同天數人群之間的超重率和肥胖率均無顯著性差異（ $P > 0.05$ ）。

4. 無論是男性還是女性，每週食用不健康食品不同天數人群之間的超重率和肥胖率均無顯著性差異（ $P > 0.05$ ）。

5. 男性每天睡眠 ≤ 6 h人群超重率和肥胖率均明顯高於睡眠時間 ≥ 9 h人群（ $P < 0.01$ ），睡眠時間 ≤ 6 h的男性人群肥胖率也明顯高於6~9h的人群（ $P < 0.05$ ）；而每天不同睡眠時間的女性人群之間超重率和肥胖率均無顯著性差異（ $P > 0.05$ ）。

6. 無論是男性還是女性，經常熬夜、偶爾熬夜和從不熬夜人群之間的超重率和肥胖率均無顯著性差異（ $P > 0.05$ ）。

7. 無論是男性還是女性，感覺不同程度壓力人群之間的超重率和肥胖率均無顯著性差異（ $P > 0.05$ ）。

結論：

1. 經常食用不健康食品、每天睡眠時間短、總是或經常感覺有壓力等因素都可能引起上海市20~39歲城市男性人群超重和/或肥胖。

2. 睡眠時間對肥胖的影響存在性別差異，睡眠時間 ≤ 6 h的男性人群肥胖率和超重率要明顯高於正常睡眠人群。

3. 由於本研究為橫斷面研究，不能明確反映因果關係，只能結合以往的研究和理論去推測結論，今後需要縱向研究或幹預試驗去進一步論證。

關鍵字：肥胖，超重，飲食，睡眠，壓力

Abstract

Objective: Obesity has been a serious threat to human health, and social environmental factor is one of the most important factors. In this study, we investigate the relation of diet, sleep and other living conditions to obesity and attempt to provide the basis for prevention of obesity.

Methods: A total of 7949 Shanghai urban adults(including 3982 men and 3967 women), aged 20-39 years, participated in this study. Participants was asked to a series of physical fitness tests including height, body weight and body mass index (BMI), as well as questionnaire on subjects age; breakfast times a week; days of eating out per week; whether eating unhealthy food such as fried foods, sweets, instant noodles, carbonated beverages, western fast food, puffed food; days of eating unhealthy food per week; sleep duration; whether often stay up late; whether often feel the pressure.

Results:

1. Breakfast times a week, whether eating unhealthy food, sleep duration, whether often feel the pressure and age were the main effect of BMI values in men, in which Breakfast times a week, whether eating unhealthy food, sleep duration and age reached statistically significant level. In addition to age, no other factors were the main effect of BMI values in women.
2. Compare to 0~1(22.4%) and 2~4(28.2%) times breakfast a week, the prevalence of overweight was significantly higher than 5~7(35.6%) times in male. The prevalence of obesity of 5~7 times breakfast a week (13.2%) was also significantly higher than 2~4 times (9.1%). There was not different significantly of the prevalence of obesity and overweight in three groups in women.
3. Whether male or female, there was not different significantly of the prevalence of obesity and overweight in three groups who had different days of eating out.
4. The results also appeared in the groups who had different days of eating unhealthy food, who whether often stay up late and who whether often feel the pressure.
5. As compared with the men who slept longer than 9 hours, the prevalence of obesity and overweight of the men with sleep duration less than 6 hours was higher significantly. But this result did not appear in women.

Conclusion:

1. Regular eating unhealthy food, short sleep duration and feeling pressure could be risk factors for obesity Shanghai urban adults, aged 20-39 years.
2. There was different in the impact of sleep on obesity in men and women. The men

who slept less than 6 hours a day had a high prevalence of obesity and overweight when compared with the men with normal sleep duration.

3. Because of the cross-sectional study, this study could not define the causal relationship. In future we need prospective cohort studies and intervention trials.

Keywords: obesity, overweight, diet, sleep, pressure

河南省40~59歲居民體質狀況城鄉差異研究

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Study on the Urban-rural Difference of Physical Fitness among People Aged 40~59 in Henan Province

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摘要

運用數理統計法和文獻資料法對參加河南省2010年國民體質監測的2464名40~59歲居民進行體質狀況的城鄉差異研究。發現河南省40~59歲居民在形態、機能和身體素質上均存在明顯的城鄉差異，且男性和女性的特徵和規律不同。在形態和機能上，女性城鎮非體力勞動者均好於女性農民和城鎮體力勞動者；而男性城鎮非體力勞動者身體脂肪比例較高，在機能上，除肺功能顯著高於男性農民和城鎮體力勞動者外，心臟功能和心血管機能水平均較低。在身體素質上，女性城鎮居民（城鎮體力和非體力勞動者）的力量素質和靈敏素質均較高，城鎮體力勞動者的柔韌素質最好，平衡能力最差；而男性城鎮非體力勞動者的力量素質最好，城鎮體力勞動者的平衡能力最差，男性農民的靈敏素質最差。應根據城鄉居民的體質狀況差異有針對性地對其進行運動健身的指導。

關鍵字：國民體質，城鄉，形態，機能，身體素質

Abstract

Using the methods of mathematical statistics and literature review, this paper studied the urban-rural difference of physical fitness among 2464 residents aged 40-59 which participating the 2010 national physique monitoring in Henan province. The results found that there were obvious urban-rural difference in physical shape, physical function and physical fitness among people aged 40-59, and the characteristics between male and female was different. The female urban nonmanual workers were much better in both physical shape and physical function than female rural residents and female urban manual workers.

However, male urban nonmanual workers' BMI was higher than male rural residents and male urban manual workers. And except for lung function better than male rural residents and male urban manual workers, male urban nonmanual workers' cardiac function and cardiovascular function was both lower. The female urban residents' (urban manual and nonmanual workers) strength and agility were higher. And female urban manual workers' flexibility was best and balance was worst. Male urban nonmanual workers' strength was best, while male urban manual workers' balance was worst and male rural residents' flexibility was worst. Scientific guidelines for the physical activities of urban and rural residents should be based on their difference of physical fitness.

Keywords: physical fitness, urban-rural, physical shape, physical function, physical fitness

遼寧省幼兒體質狀況影響因素分析

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Analysis on Factors that Influence Physique Status of Children in Liaoning Province.

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摘要

研究目的：幼兒是國民中的特殊人群，他們體質的好壞不僅僅關係到運動技能的形成，而且也影響到成年階段的健康狀況，更是對未來整個國家和民族的興旺發達起着重要的作用。本文以遼寧省3-6歲的幼兒為研究對象，以2010年國家第三次國民體質監測問卷和測試指標為基礎，通過統計分析，找出影響遼寧省幼兒體質狀況的影響因素，並對這些影響因素提出對策，旨在為提高遼寧省幼兒體質提供堅實參考。

研究方法：

1. 體質測試法

2. 數理統計：運用SPSS17.0數理統計套裝軟體對所測數據進行最優尺度回歸分析。

結果：

1. 根據重要係數，可以判斷餵養方式在方程式中的重要性最大，其次是出生時體重，然後是出生時胎齡，最後是出生時身長。有研究表明，幼兒體質狀況與出生時胎齡、出生後4個月內餵養方式存在密切關係。

2. 根據重要係數，可以判斷是否參加特長班在方程式中的重要性最大，其次是食用油炸食品，最後是睡眠時間。這與有關研究幼兒是否參加興趣或特長班和平均每天睡眠時間是生活方式中影響幼兒體質的主效應的結果基本一致。這說明孩子的後期發育主要看其參與的社會活動狀況，我們這裏提到的特長班一般泛指體育類和文藝類特長班，無論是哪種特長班，都對幼兒的身心發育有著促進作用；同時油炸和甜食等食品對幼兒的身體發育也有一定的影響。

3. 根據重要係數，可以判斷母親身高在方程式中的重要性最大，其次是母親生育年齡，再次是父親生育年齡。有研究顯示，父親的受教育程度對幼兒的形態和素質都有影響，而產生這種結果的原因可能是生活環境、幼兒的玩耍方式等方面的不同而造成的差異。

關鍵字：遼寧，幼兒，體質影響因素，最優尺度回歸分析

Abstract

Analysis Objective: Children are a special group in national people. The physique status of children not only concerns not only the development of their sport skills but also affect the health status in their adult stages. Moreover, the physique status of children will play an important role for the prosperous future of the whole nation. This essay takes those children aging from 3 to 6 years old in Liaoning province as object of study, and takes the questionnaires and the measurement indexes of China Third National Physique Monitoring in 2010 as the base. With the statistics and analysis, the essay aims to find out the factors which influence the physique status of children in Liaoning province, and at the same time to propose corresponding measures as reference to improve the physique of those children.

Analysis Methods:

1. Physique Test
2. Mathematical Statistics: Optimal scale regression analysis by SPSS17.0 mathematical statistics software package

Analysis Conclusion:

According to the important indexes, it can be judged that feeding patterns plays the

most important part in the formula; birth weight does the second; then follows by birth gestational age and birth height. Research shows that feeding pattern from birth to four months is the most influential factor on the physique status of children, that means, the physique status is determined by the feeding pattern during this period of time.

According to the important indexes, it can be judged that whether to take part in skill classes plays the most important part in the formula; eating fried food does the second; then follows by sleeping time. This result is proved by related research, which comes to the same conclusion that among varies living methods whether to take part in skill classes and average sleeping time every day are the two main factors to influence the physique status of children. That is to say, later development of children is mainly concerned with their social activities. Above-mentioned “skill classes” in general refer to sports or art and literature classes, which help promote the physical and mental development of children. At same time, fried food and sweet food also has a direct impact on the body development of children.

According to the important indexes, it can be judged that mother’s height plays the most important part in the formula; mother’s child-bearing age does the second; then follows by father’s child-bearing age. Research shows that the educational level of father will affect both the body shape and the body quality of the child. This consequence might result from the differences in living environment, children’s playing ways and so on.

Keywords: Liaoning, Children, Factors that Influence Physique Status, Optimal scale regression analysis

遼寧省20~59歲人群身體形態研究**王東¹，趙超¹，李博¹，王立娟²，田德新¹，李貞玉¹****1. 遼寧省體育科學研究所，遼寧瀋陽 1100179****2. 遼寧省體育局群體處，遼寧瀋陽 1100179****Analysis on 20~59 years population study of body shape in Liaoning Province****WangDong¹, Zhao Chao¹, LiBo¹, Wang Lijuan²,****Tian Dexin¹, Li Zhenyu¹****1. Liaoning Institute of Sport Science, Liaoning, Shenyang 110179****2. Liaoning Administration of Sports, Liaoning, Shenyang 110179****摘要**

研究目的：身體形態是指人體外部的形態特徵，在體質研究中，人體形態主要是指涉及人體測量和觀察的內容，包括人體各部大小，人體重量、性徵、骨骼、體形及體姿等。本文旨在對國民體質監測中的描述人體形態的指標及派生指數來分析遼寧省20-59歲人群的身體形態特徵，探討評價身體形態的指標。

研究方法：

1. 文獻資料：取2005年和2010年遼寧省國民體質監測中成年人組20-59歲93773人的數據。

2. 數理統計：所有數據採用Excel2003和PASW Statistics18.0軟體進行統計。

研究結果：成年男子身高都隨年齡的增長而降低，2010年成年男性各年齡組的身高均高於2005年；兩年度成年女子身高大體隨年齡的增長而降低。2010年成年女性各年齡組的身高均高於2005年；兩年度成年男女體重都是隨年齡的增長而增加，而後逐漸降低。2010年成年男女各年齡組身高均高於2005年；2010年度成年男子BMI在40歲之前隨年齡的增長而增加，而後逐漸下降，最後又有增高，2005年度成年男子BMI大體隨年齡增長而增加；兩年度成年女子BMI都隨年齡的增長而增加；2010年度成年女子BMI小於2005年度，兩年度差值隨年齡

的增長而增加；兩年度成年男女的肥胖率都隨年齡的增長而增加，在50歲後下降；2010年我省成年男子女子的胸圍、腰圍和臀圍都較2005年增加；兩年度成年男女腰臀比都隨年齡的增長而增加，兩年度成年男女腰臀比的差異不隨年齡增長而變化。

結論：由身高增長的不同特徵可見男性越年輕可見身高增長的越明顯，表明我省青年人的生長發育水平提高和生活水平的提高。成年女子的身高隨著年齡的增加而差距逐步增多，可見與人群對鈣的補充和骨質疏鬆重視程度的加深和生活水平提高有關。由此可見我省人民生活水平的提高和健康營養意識的增強。但是隨之而來的肥胖問題也非常嚴重而不能忽視。進一步證實了BMI和腰臀比兩項指標對人體形態評價的可靠性和穩定性。

關鍵字：身體形態，身高，體重，BMI，三圍，腰臀比，遼寧

Abstract

Analysis Objective: Body shape is the external morphology of the human body. Studies in physical, human form mainly refers to the body measurements and observations related to the content. Including the ministries of human size, body weight, sexuality, bone, body shape and body posture and so on. This paper aims to describe the national physique monitoring body in the form of indicators and indices derived from analysis of Liaoning Province 20-59 year-olds body morphology, body shape of evaluation indicators.

Analysis Methods:

1. Literature
2. Mathematical Statistics: The data by PASW 18.0 mathematical statistics software package

Results and analysis: The height of men have reduced the growth of age. 2010 adult males in each age group were higher than the height of 2005; Two adult female annual height growth generally decreases with age. 2010 adult women in each age group were higher than the height of 2005. Weight of two adult men and women are annual increases with age, then gradually decreased. 2010 adult men and women in each age group were higher than the height of 2005; 2010 adult men before the age of 40 BMI increases with age, And then decreased gradually, and finally there are increased. 2005 adult male BMI

in general increases with age. Two years of adult women have BMI increases with age. BMI less than 2010 adult women in 2005. Two year difference increases with age. Two adult men and women of the annual rate of obesity increases with age. Decline after the age of 50; 2010 adult men in our province woman's bust, waist and hip are more than in 2005; Two years both men and women waist-hip ratio increased with age. Two year difference between men and women waist-hip ratio does not change with age.

Analysis Conclusion: Height growth by the different characteristics of the younger men can be seen the more clearly visible increase in height, indicating that the province raise the level of growth and development of young people and the improvement of living standards. That the province raise the level of growth and development of young people and the improvement of living standards. Adult female height gap increases with age and gradually increased, and the crowd can be seen on calcium supplements and osteoporosis attention to the deepening and improving the standard of living. However, the ensuing problem of obesity is very serious and can not be ignored, and further confirmed the BMI and waist-hip ratio are two indicators for the evaluation of the human form of the reliability and stability

Keywords: Height, Body Weight, BMI, Measurements, WHR, Liaoning

烏魯木齊市維、漢3~6歲幼兒體質狀況分析

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Physique condition analysis between 3~6 Uygur and Han nationalities in Urumqi city

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摘要

研究目的：烏魯木齊市是一個多民族聚居的城市，居住著漢、維吾爾、回、哈薩克、蒙古等47個民族。其中漢族與維吾爾族兩個民族所占人口比例最多。與漢民族相比，維吾爾族不管是在生活習俗，還是體質形態都具有一定的差異，且具有一定的代表性。本文試圖通過對烏魯木齊市維吾爾族和漢族3-6歲幼兒體質狀況的分析對比，揭示維、漢兩民族幼兒體質方面的差異，並總結出維、漢幼兒體質現狀及其發展的特點和客觀規律，為進一步改善我市維、漢幼兒體質狀況，進行運動員科學選材，提高我市維、漢幼兒體質健康水平提供科學、合理的依據和建議。

研究對象和方法：運用文獻資料法、問卷調查法、實地調查法、數理統計法、對比分析法。課題組從2010年10月5日-10月12日，嚴格按照《中國幼兒體質調研方案》和《檢測細則》的要求，對烏魯木齊市維吾爾族幼兒以每週歲為一個年齡組，分性別共計8個年齡組，物件樣本量800人，有效資料783人。漢族幼兒來源於烏魯木齊市第三次國民體質監測3-6歲幼兒數據庫，有效數據760人。形態指標：身高、坐高、體重、胸圍、三部位皮褶厚度、BMI、維爾維克指數；身體機能指標：安靜心率；身體素質指標：立定跳遠、網球擲遠、坐位體前屈、10米折返跑、走平衡木、雙腳連續跳。測試數據統一用spss17.0及excel軟體進行統

計處理。

結果：

1. 身體形態方面，維吾爾族幼兒與漢族幼兒相比，身高高，但坐高低，呈上身短下身長的特點；體重、胸圍、三部位皮褶厚度之和、BMI和維爾維克指數都高於漢族幼兒，脂肪含量偏高，身體發育程度以及身體充實程度要優於漢族幼兒。

2. 身體機能方面，維吾爾族幼兒安靜心率指數普遍高於漢族幼兒。

3. 身體素質方面，漢族幼兒在上肢力量和協調性、爆發力、柔韌性以及速度等素質較高，維吾爾族幼兒在下肢力量和協調性方面較好。

建議：

1. 動態監測、進行運動員科學選材。

2. 飲食上，維、漢幼兒家長應做到營養的全面化和多樣性。

3. 日常生活中適當增加室外活動的時間。

4. 政府相關部門給予充分的重視，建立幼兒體質健康檔案，並形成相應的體質測評體系。

關鍵詞：烏魯木齊，維吾爾族，漢族，幼兒，體質，分析

Abstract

Study purpose: Urumqi city is a multi-ethnic city, with 47 nationalities of han, uygur, kazak, hui, Mongolia and others. Among them, the han and Uygur population are most. Compared with the han nationality, uygurs have some representative differences both in life custom and physical shape. Through physical condition analysis between 3-6 Uygur and Han nationalities in Urumqi city, this paper attempts to reveal two national children's physical differences, conclude present situation, the development characteristics and objective law, in order to further improve physical condition of both Han and Uygur childre, scientifically select athletes, and provide scientific and reasonable basis and suggestions for improving Han and Uygur physical health level.

Objective: the urumqi is a multi-ethnic city, live han, uygur,nal children's physical differences, and sums up the d, han children present situation and the development characteristics of the constitution and the objective law, to further improve the our city d, han physical conditions of children, the athletes science material selection, improve zhuhai d, han physical health level of young children to provide scientific and reasonable basis and Suggestions.

Research object and methods: Using literature data method, questionnaire survey method, field investigation, mathematical statistics and comparative analysis methods, in strict accordance with the China children epidemiological survey scheme and detection detailed rules, this paper obtained 783 effective data from sample size of 800 Uygur, testing from October 5, 2010-October 12. The Han nationality children were from 3-6 years old children database of urumqi third civil constitution monitoring, with 760 effective data.

Morphological index: height, sitting height, body weight, chest circumference, skinfold measurement, BMI, Nashville, vick index;

The body function index: quiet heart rate;

Physical quality index: standing long jump, tennis throw far in succession, crook proneness, 10 meters dash, walk on the balance beam, consecutive jump. The test data was unified dealt with spss17.0 statistical processing and excel software.

Results:

1. In body shape, compared with han nationality children, Uygurs are higher in height but lower in sit, with characteristics of longer upper part and shorter lower part of the body. Body weight, chest circumference and three site skinfold measurements are higher than the han nationality children. BMI and Wells vick index are higher. Fat content is higher. physical development degree and body enrichment degree are higher than the han nationality children.
2. In body function, quiet heart rate index of uygur children is higher than the han nationality children.
3. In body quality, the han nationality children are superior in index of upper limb strength and coordination, the explosive force, the flexibility and speed. Uygur children have a high quality in lower limb strength and coordination.

Discussion:

1. Dynamic monitoring, and scientific selection for athletes .
2. Diversity should be considered in nutrition.
3. Outdoor activities should be increased appropriately.
4. Children's physical health files and corresponding constitution assessment system should be set up .

Keywords: Physique condition, Uygur, Han 3-6, urumqi

2005~2010年烏魯木齊市老年人體質狀況動態研究

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The dynamic research on physique condition of Urumqi elderly people in the samples of 2005 and 2010

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摘要

研究目的：2010年全國第六次人口普查結果顯示，我國60歲及以上人口占總人口13.26%，比2000年上升2.93個百分點。隨著我國人口老齡化程度的加快，老年人的體質健康狀況也普遍受到重視和關注，瞭解、掌握和改善老年人體質健康水平和生活質量問題已迫在眉睫。本文試圖通過對2005-2010年兩次國民體質監測中烏魯木齊市老年人體質監測結果分析和對比，瞭解烏魯木齊老年人的體質特徵及動態變化規律，為烏魯木齊市有關政府部門制定、實施相關政策，提高老年人的體質健康水平提供科學依據。

研究對象和方法：運用文獻資料法、問卷調查法、實地調查法、數理統計法、對比分析法，以2005年和2010年烏魯木齊市兩次國民體質監測60-69歲老年人組的監測結果為研究對象。每個年齡組各監測100人，兩次監測老年人樣本量為1600人，有效樣本量為1480人。

1. 形態指標：身高、體重、胸圍、腰圍、臀圍、腰臀比、三部位皮褶厚度；

2. 身體機能指標：安靜脈搏、血壓、肺活量；

3. 身體素質指標：握力、閉眼單腳站立、選擇反應時、坐位體前屈。測試數據統一用spss17.0及excel軟體進行統計處理。

結果：

1. 與2005年相比，2010年老年人身高、胸、腰、臀三圍和腰臀比增大，老年男子三部位皮褶厚度減小，而老年女子增大，且變化幅度較大。

2. 與2005年相比，2010年老年人身體機能水平呈下降趨勢。

3. 與2005年相比，2010年老年人手臂部力量、平衡能力、柔韌性、反應能力等各項身體素質都有一定程度的提高。

建議：

1. 老年人應合理搭配飲食，注意營養的均衡，多參與體育鍛煉。

2. 政府相關部門應當加大宣傳力度，提高老年人體育鍛煉意識，加強對老年人科學鍛煉相關知識的普及和指導。

3. 政府要進一步加大體育健身設施與場所建設的投資力度，為老年人體育鍛煉營造一個良好的社會氛圍和環境。

4. 加強對老年人的體質健康狀況的關注程度，定期為老年人開展健康檢查以及體質測試，並對出現的問題採取積極的幹預措施。

關鍵字：烏魯木齊，老年人，體質，動態分析

Abstract

Study purposes: The sixth national census in the 2010 shows that people aged 60 and over account for 13.26percentage points of the population. up 2.93 percentage points from the rate of the 2000 , the population of people aged 60 and over is 233540000 account for 13.26 percentage points of the population inxinjiang. With the increase of aging population, the physique and health situation of old people has been caught More and more attention in the society. realizing and commanding health quality is extremely urgent. This essay tries to find out the physical features of urumqi old people and dynamic change rule,by means of the analysis and contrast of old people physique monitoring results in 2005 and 2010 and provide scientific basis for the government to formulate and

implement related policies for improving old people's quality of health.

Research Subjects and methods: literature data method, questionnaire survey method, field investigation, mathematical statistics and comparative analysis methods were used in the paper , choose the physique monitoring results of old people aged 60-69 in 2005 and 2010 as the research subjects.100 people were tested in each group, the total sample amount of the test is 1600.the effectual sample amount is 1480, the effectual sample amount in 2005 is 736, the effectual sample amount in 2010 is 744. Morphological index: height, body weight, chest circumference, waistline, hip circumference, waist-to-hipratio,skinfold measurement;The body function index: quiet heart rate,blood pressure, vital capacity;Physical quality index: power of gripping, Standing on one leg with eyes closed , choice reaction time, crook proneness. The test data was unified dealt with spss17.0 statistical processing and excel software.

Results:

1. Compared with 2005, old people's height, chest circumference, waistline, hip circumference, waist-to-hipratio increased in 2010, skinfold of old men reduced and skinfold of old women increased.
2. Compared with 2005, There is a discernible decline in physical function of old people in 2010.
3. Compared with 2005, strength of arm , balance, flexibility, responsiveness of old people improved to some extent.

Discussion:

1. The elderly should have the reasonable diet, pay attention to balanced nutrition and participate in physical exercise.more.
2. Government departments should strengthen publicity to increase the elderly 's awareness of physical exercise , popularize the scientific knowledge of physical exercise provide guidelines for the elderly.
3. The government should increase the investment on the sports facilities and Sports fields, create a good social atmosphere and environment for old people to exercise.
4. paying more attention to the old people's physical health level, organize examination and physical tests for old people and take active intervention measures to the problems

Keywords: Urumqi, elderly people, physique, dynamic research, Introduction of authors

武漢市60~69歲老年人體質現狀調查研究

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Research on Physical Fitness Condition of People Aging from 60~69 in Wuhan

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摘要

目的：瞭解和掌握武漢市60-69歲老年人體質健康現狀和變化規律。

方法：採用文獻資料法、測量法、數理統計法分別從身體形態、身體機能、身體素質三方面對武漢市471名老年人進行研究分析。

結果：老年人體質狀況存在性別、城鄉和年齡段上的差異；老年人血壓總體狀況良好，但不容樂觀；為了提高老年人體質狀況，降低患病率，應避免熬夜，並學會適當的減壓方式，保持身心愉悅；在日常體力活動中，老年人應以中小強度的體育鍛煉為主。

結論：不同性別、年齡段和城鄉老年人的體質現狀存在顯著性差異，保持身心愉悅，適當參加中小強度的體力活動有益於老年人身體健康。

關鍵字：老年人，體質，武漢

Abstract

Objective: To understand and master the physical fitness condition and changing of people who are 60 to 69 years that lived in Wuhan.

Methods: Analysing 471 elder people from Wuhan in terms of body form, body function and body quality based on literature, measurement method and mathematical statistics method.

Results: The elders' physical fitness have differences in gender, areas and ages. The elders' blood pressure are good in general but not optimistic. In order to improve the elders' physical condition, reduce the prevalence, they should avoid to stay up late, and learn the appropriate way to reduce pressure, maintain comfortable. In daily physical activity, old people should take priority to moderate intensity exercise.

Conclusions: The elders' physical situation exist significant differences in genders, ages and areas, it is benefit to the old people's healthy to maintain body and mind cheerful and have small and medium strength of physical activity appropriately.

Keywords: old people, physical fitness condition, Wuhan

濟南市城鄉老年女性體質特徵及原因

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Research on physical characteristics of urban and rural older women in Jinan and its reasons

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摘要

目的：通過分析60~69歲老年女性的體質健康狀況和體育鍛煉情況，探討該人群健康狀況、城鄉差異以及與體育鍛煉之間的關係，旨在為濟南市老年女性進行科學的鍛煉提供依據，進而為全民健身計畫的實施提供參考，為改善老年人體質健康提供方法，為社會發展服務。

測試方法和對象：應用文獻資料、問卷調查、體質測試等方法，採用抽樣調查的方法，在曆下區、槐蔭區、曆城區、章丘市、平陰縣、商河縣共6個縣（市）區，抽取和測試了60~69歲老年女性183人。

結果：

1. 全市老年女性體質優秀率為12.5%，良好率為22.62%，合格率為51.79%，不合格率為13.1%。其中城鎮老年人優秀率為21.52%；鄉村老年人優秀率為4.49%。城鎮、鄉村老年女性的多項形態指標和身體素質指標（握力、閉眼單腳站立、選擇反應時）存在差異，差異具有顯著性。

2. 在參加測試的183人中，每週進行一次以上小強度體育鍛煉者僅有7人，每週進行一次以上中等強度體育鍛煉者僅有23人，進行體育鍛煉者所占比例不到20%。

3. 濟南市城市和鄉村公共體育活動場地、設施健身路徑等分佈不均衡。超過50%的鄉村受試者居住的村子內沒有健身路徑、籃球場等公共體育活動場地、設施。

結論：

1. 城鎮、鄉村老年女性體質狀況存在差異，差異具有顯著性。
2. 合理的體育鍛煉能夠有效提高老年人的體質健康，老年女性應根據自身情況積極參與體育鍛煉，同時提高體育鍛煉的多樣性。
3. 濟南市城市和鄉村公共體育活動場地、設施等分佈不均衡，地方政府、有關部門應加大對農村公共體育活動設施的投入，促進農村人口進行體育鍛煉。
4. 人們對體育鍛煉的需求不斷增強，但是大眾對體育鍛煉、科學健身的認識水平不盡相同。相關部門應採取科普知識講座、巡展等方式，加大科學健身的宣傳力度。

關鍵字：60~ 69歲，老年女性，體質健康，體育鍛煉，城鄉

Abstract

Object: By analyzing 60 ~ 69 years old women's physical health and physical activity, explore the health status, urban-rural differences as the relationship between physical exercise, aimed at older women in Jinan City, the exercise provided a scientific basis, which in turn fitness provide a reference implementation of the plan, provided to improve the physical health of older methods for social development.

Methods and objects: Application literature, questionnaires, physical testing etc, in Lixia, Huaiyin, Licheng, Zhangqiu, Pingyin, SHANGHE total of six counties (cities), taking and testing of 183 older women aged 60 to 69.

Results:

1. The outstanding was 12.5%, a good rate of 22.62%, pass rate 51.79%, failure rate of 13.1% of the elderly female physique, the town of the outstanding was 21.52%; the rural of the outstanding was 4.49%. form a number of indicators and physical indicators of older women of Towns and villages (grip strength, standing on one leg with eyes closed, choice reaction time) are different, the difference was significant.
2. In the test of 183 people, more than once a week low intensity physical activity were only 7, more than once a week moderate physical activity were only 23, the proportion

of physical activity were less than 20% .

3. Jinan urban and rural public sports venues, fitness facilities, such as the uneven distribution of the path. More than 50% of the rural village of subjects living in the path there is no gym, basketball courts and other public sports venues and facilities.

Conclusion:

1. Differences in physical condition of urban, rural older women, the difference was significant.
2. Reasonable physical exercise can improve the physical health of older people, older women should be according to their active participation in physical activity, while increasing the diversity of physical exercise.
3. The public sports venues, facilities of Jinan urban and rural,are uneven distribution, local governments, relevant departments should increase investment in rural public investment in sports facilities, to promote rural exercise.
4. Though the growing for physical exercise, the mass of physical exercise, fitness level of awareness of science are not the same. Relevant departments should take science lectures, tour, etc., to increase the fitness of scientific propaganda.

Keyword: eldly people, physical characteristics, exercise, urban, rural

鄭州市城市非體力勞動人群與公務員人群體質對比研究

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The distinguish research of the constitution of the urban non manual laborers and the public servants in Zhengzhou

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摘要

通過對2010年河南省第三次國民體質監測鄭州市的城市非體力勞動者和2011年河南省直機關公務員體質監測兩次測試數據分性別和年齡段進行對比研究，比較公務員群體作為城市非體力勞動者的一個特殊樣本群，其體質狀況的特點。研究結果表明，公務員人群的平衡能力和反應速度處於優勢，而公務員的身體柔韌性和心肺功能處於較差水平，特別是40~59歲男性公務員的血壓較高問題需要引起關注。

關鍵字：第三次國民體質監測，城市非體力勞動，公務員，體質

Abstrac

The constitution of the urban non manual laborers in Zhengzhou and the public servants in provincial organs of Henan province which original date come from the 3rd citizen constitution monitoring of Henan in 2010 are compared and analyzed. The researchers are grouping by sexual and age. The results show that: the balance ability and response speed of republic servants are better than other urban non manual laborers; the body flexibility and cardiopulmonary function of republic servants are worse than other urban non manual laborers, especially the problem of blood pressure of the male public servants at the age of 40~59.

Keywords: Third national physical fitness monitoring, the urban non manual laborers, the public servants, the constitution

休閒樂山十五年來成年人體質發展變化的特徵

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Characteristics of development and change of adult physical fitness in Leisure Leshan 15 years

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摘要

目的：為了分析掌握樂山市15年來國民體質的發展狀況，更好地指導市民健身。

方法：本文利用2000年、2005年、2010年樂山市國民體質監測中心提供的國民體質監測數據，進行對比和邏輯分析。

結果：樂山市成年人15年來在肺活量、選擇反應時、上肢力量、平衡能力等方面下降明顯，但三圍卻增加明顯。

結論：隨著現代化程度的日益提高，國民體質在下降，體育幹預體質健康的方法和措施效果不明顯。

關鍵字：休閒樂山，成年人，體質，特徵

Abstract

Purpose: In order to analyze the master in Leshan in the past 15 years the national physique development, to better guide the public fitness.

Method: This paper using the 2000, 2005, 2010, Leshan City National Fitness Monitoring Center for the national physical fitness monitoring data, Comparison and logic analysis.

Results: Leshan city adults 15 years in vital capacity, choice reaction time, strength, balance and fell significantly, but measurements have increased significantly.

Conclusion: With the modernization degree rise increasingly, national physical fitness in decline, sports fitness method and measure the effect is not obvious.

Keyword: leisure leshan, adults, physical fitness, characteristics

河南省3~6歲幼兒體質狀況研究

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Study on Physical Fitness of Children Aged 3~6 in Henan Province

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摘要

研究目的：本研究旨在通過對河南省3~6歲幼兒形態、機能、素質抽樣測試結果進行分析，掌握其體質狀況及變化規律。針對目前我國幼兒體質狀況存在的一些問題提出科學合理的建議和意見，同時為家長和幼稚園指導幼兒健身鍛煉提供科學依據。

研究方法：按《2010年國民體質監測工作手冊》的要求，對有關測試指標進行測試。測試指標包括身體形態（身高、坐高、體重、胸圍和皮褶厚度）、身體機能（安靜時脈搏）和身體素質（立定跳遠、網球擲遠、坐位體前屈、10米折返跑、走平衡木和雙腳連續跳）三個方面。

研究結論：

1. 河南省幼兒3~6歲幼兒身體形態發育，男女身高高峰出現年齡段不一致，男女幼兒之間比較，男幼兒身高增長幅度大於女幼兒。坐高增長趨勢與身高相同。體重均值變化的總趨勢隨年齡的增長而逐漸增加，男女幼兒均值相比較男幼兒體重大於女幼兒，總趨勢體重高於國家幼兒體重。胸圍男幼兒幅度大於女幼兒。皮褶厚度均值，女幼兒大於男幼兒，女孩脂肪含量比男幼兒多，顯出性別差異。

2. 河南省幼兒3~6歲幼兒身體機能監測指標為安靜心率，男女幼兒安靜心率均值隨年齡的增大而減小。

3. 河南省幼兒3~6歲幼兒身體素質情況來看，同齡男性幼兒力量、速度、彈跳力方面均好於女性，而女性幼兒柔韌性則好於男性，協調、平衡能力無明顯差

異。男幼兒體能與全國水平比較，只有10米折返跑較差，成績低於全國水平，女幼兒均優於全國平均水平。

4. 河南省幼稚園3~6歲幼兒體質達標來看，身體優秀和良好的幼兒所占比例不大，說明幼兒身體綜合素質較低。

關鍵字：幼兒，體質，測試結果，研究

Abstract

Research Purposes: Early childhood stage is a rapid stage for physical development. And physical fitness has a direct impact on physical condition in adult stage. Through analyzing the test results of physical shape, physical function and physical fitness of children aged 3~6 in Henan province, the present study was designed to master their characteristics of physical condition. And scientific guidelines for the physical activities of children was provided to parents and kindergartens basing on the problems of the current physical condition.

Research Methods: According to "2010 National Physique Monitoring Manual", test indexes included physical shape (height, sitting height, weight, chest circumference and skinfold thickness), physical function (resting pulse) and physical fitness (standing long jump, throwing distant tennis, Sit and Reach, 10 m shuttle run, walk the balance beam and continuous jumping).

Research Conclusion:

1. The peak height of male and female children aged 3~6 in Henan province appeared at inconsistent age. The magnitude of height growth for male children was larger than female children. Sitting height growth had the same trend with height growth. The weight and chest circumference of male children was higher than female children. However, the skinfold thickness of female children was larger than male children.
2. The resting heart rates of male and female both decreased with the increasing of age.
3. The strength, agility and jumping ability of male children was better than female children. The flexibility of female children was better than male children, while coordination and balance had no significant difference between male and female

children. Comparing to the national averaged level, except for the 10 m shuttle run of male children much lower, the rest were all better than national average for both male and female children.

4. Generally, the percent of children that physical fitness was excellent or good was not large, indicating a lower overall physical quality of children aged 3~6 in henan province.

Keywords: children, Physical Fitness, test result, study

長治市兒童青少年身體形態生長發育增長率變化特徵

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The research on growth rate of body shape of children and adolescents
aged from 7 to 18 in Changzhi

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摘要

目的：本文對7~18歲兒童青少年身體形態指標數據進行了分析和比較，目的在於瞭解兒童青少年在生長發育過程中，身體形態生長發育增長率特徵及各形態指標之間的關係特點，為深入研究我國兒童青少年身體形態增長特徵以及身體整體發育特徵提供了理論依據。

方法：採用分層隨機整群的抽樣方法，抽取長治市7~18歲兒童青少年為研究對象。根據人體身體形態測量方法對其身體形態17項指標進行測量並對測量結果進行分析。

結論：

1. 7~18歲兒童青少年在生長發育不同階段中，男女生在青春發育前期和青春發育突增期時，長度指標增長率大於寬度指標，長度與圍度指標增長率相似。而在青春發育突增後期中，男生寬度指標增長率大於長度指標，圍度與長度相似；而女生表現為圍度指標增長率小於其他兩類指標。

2. 7~18歲兒童青少年身體形態增長率總體上體現出：寬度和圍度指標增長率大於長度指標。男女生相比，男生除了圍度指標增長率小於女生外，寬度和長度指標增長率都大於女生。

關鍵字：兒童青少年，身體形態，增長率

Abstract

Objective: Through the analysis of the data of the physical morphological indexes of the teenagers aged from 7 to 18, this thesis aims to find out teenagers' characteristics of their physical shape during their growth and traits of the relationship among the morphological indexes, so as to provide grounds for exploring the incremental characteristics of teenagers' physical shape and developmental characteristics of their bodies in China.

Methods: This present research mainly adopts multi-stage stratified random sampling. Teenagers aged from 7 to 18 were selected. About 17 index of physical shape were measured according to measuring method of human physical shape.

Conclusion:

1. In different stages of teenagers' development, the grown rate of their physical shape shows that: In the early and peak period of puberty the growth rate of the length index of both boys' and girls' is greater than that of their width index and simile to that of their circumference index, while in the late period of puberty the growth rate of the width index of boys' is greater than that of the length index and the growth rate of the length index is similar to that of their circumference index, and the growth rate of both the length index and the width index are greater than that of circumference index.
2. The grown rate of physical shape of the teenagers aged from 7 to 18 shows that generally the grown rate of both the width and the circumference index are greater than that of the length index. The grown rate of boys' width and length index are greater than that of girls', except for that of circumference index.

Keyword: teenagers, physical shape, grown rate

成都市2010年國民體質監測報告

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Reports Of National Physical Fitness Monitoring In Chendu

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摘要

目的：瞭解成都市民體質狀況的現狀、變化趨勢以及在全國國民體質中的水平，研究影響體質的原因，為提高成都市民的體質健康水平建言獻策，促進成都市民體質健康水平的提高。

方法：根據整群隨機抽樣原則抽取樣本，按照《2010年國民體質監測工作手冊》中的測試方法、要求對受檢者進行形態、機能、素質指標的測量。利用2010全國國民體質公報中公佈的資料，以全國均值為總體樣本進行單樣本T檢驗。

結果：成都成年人、老年人身體形態、機能、素質指標的年齡變化趨勢與全國體質調研的結果總體相同。成都國民形態指標除了皮褶厚度，均低於全國水平；機能素質與全國同水平；素質水平低於全國水平，但老年人的握力、反應時等素質好於全國。

結論：成都體質合格率高於全國，成都國民體質總體情況較好。老年人素質好於全國，但年輕人素質沒有全國好。在繼續保持老年人體質的同時，要注重年輕人體質水平的促進和提高。

關鍵字：國民體質，形態指標，機能指標，素質指標

Abstract

Objective: To understand the current situation and the variation trend of national physical fitness in Chen Du province; to know the levels of physical fitness in Chen Du compared with the whole country so as to find out the influence factors of physical fitness and provide reference for the development and progress of mass fitness in chendu.

Methods: 4803 adults and 777 old people were selected from urban and rural according to the method of cluster randomization, tested all the indexes about three aspects of body shape, physical function and physique according to 《The Workbook of National physical Fitness Monitoring in 2010》. Based on the data of Chinese national physical constitution test gazette in 2010, adopted one sample t-test to compare and analysis indexes in order to find out the characters of national physical fitness in chendu.

Results: The results of the investigation shows that the age variation trend of the body shape, function and physique indexes of the adults and the old people is nearly the same as the results of the National fitness monitoring. Except the skin plait thickness, the other indexes of body shape of chendu are lower than the average national values; physical function of chendu national are at the same levels as the average national values; physique is lower than the average national values, but physique of the old people is higher than the average values, especially grip strength and reaction time.

Conclusion: The physique pass rate of chendu is higher than the average national values, physical Fitness of chendu is generally well. The physical Fitness of the old people in Chendu is better than that of the old people in China, whereas adults in chendu is worse than that of the average values. Should pay more attention to the improvement of physical Fitness of the adults while keeping the old people's physical fitness.

Keywords: tional physical Fitness, body shape, physical function, physique

2010年山東省60~69歲城市老年人肥胖影響因素的分析

劉俞宏

Analysis the influencing factors of obesity elders who are 60~69 years old lived in Shandong Province in 2010

Yuhong liu

摘要

目的：掌握山東省2010年60-69歲城市老年人的肥胖情況並分析其影響因素。

方法：採用國家國民體質監測中心指定的體質監測器材及調查問卷，於2010年5月對山東省城市2786名60-69歲老年人進行體質測試及問卷調查。最後通過國家國民體質監測中心研發的數據採集軟體提取數據，利用SPSS對測試數據進行統計分析。

結果：

1. 山東省城市60-69歲老年人的總體超重率是48.0%，總體肥胖率是23.0%。
2. 山東省城市60-64歲老年人超重694人，占總人數的48.4%，肥胖336人，占總人數的23.4%；65-69歲老年人超重640人，占總人數的47.5%，肥胖304人，占總人數的22.6%。

結論：山東省城市老年人肥胖率偏高，其影響因素可能是進食過量或身體活動減少，因此應該通過合理安排飲食和加強體育鍛煉兩方面採取措施。

關鍵字：山東，60-69歲，城市，老年人，肥胖

Abstract

Objective: To master the obesity of 60-69 old city persons in Shandong province and analysis of its influencing factors.

Methods: In the means of the physical monitoring equipment specified by the China center of National Physical Fitness Surveillance and questionnaire, 2786 adults, 60-69 years old was monitored and surveyed in the city of Shandong Province in May 2010, and

the data acquisition software is developed by China center of National Physical Fitness Surveillance. the data was statistical analyzed by SPSS.

Results:

1. The overweight rate of the 60-69 old persons who lived in the city is 48%, and the rates of obesity are 23%.
2. The overweight persons who are 60-64 years old and lived in the city of Shandong province are 694, accounting for 48.4% of the total people, the obese persons are 336, accounting for 23.4%; the overweight persons who are 65-69 years old and lived in the city of Shandong province are 640, accounting for 47.5% of the total people, the obese persons are 304, accounting for 22.6% of the total people.

Conclusion: The obesity rate of the old persons who lived in the Shandong province city is high, its influence factors may be eat enough or physical activity is reduced. so we should though reasonable arrangement of the diet and physical exercise.

Keywords: Shandong, 60-69, city, old persons, obesity

2010年山東省城鄉60~69歲老年人體質狀況分析

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Analysis on the physical condition and difference between the elderly people from cities and countryside of Shandong province 2010

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摘要

運用文獻資料法、測量法、數理統計法對山東省17地市5681名60-69歲城鄉老年人體質監測數據進行分析，探討山東省老年人體質現狀及變化趨勢，並對比城鄉老年人體質間的差異，研究影響體質變化的因素，為本省全民健身發展的方針政策提供參考。結果發現，鄉村老年各項身體形態、機能、素質指標整體差於城鎮老年人。分析認為，鄉村老年人體質狀況整體差於城鎮老年人，這可能與城鄉之間經濟狀況、生活品質、生活環境及健身意識有關。因此，建議各地市積極開展群眾體育活動，重點加強對鄉村體育鍛煉的宣傳和指導，縮小城鄉差距，增加全體國民體質。老年人在體育鍛煉時應順應生命發展的規律，科學適度“循序漸退”。

關鍵字：山東省，老年人，城鄉，體質差異

Abstract

Take the methods of data literature, measurement and mathematical statistics, we test and analyze the physical condition difference between the 5681 elderly people from countryside and cities of Shandong Province. Discuss the changing trend and factor, and provide some suggestion for our national fitness. Come to the results that, the physical condition of the elderly people from countryside is weaker than whom from cities, universally. Conclusions that, probably the physical condition difference of the elderly people between the countryside and cities is relation to economic status, quality of life, living environment and health consciousness they live. So, we suggest that every

countryside and cities should organize sports activities among the mass, actively, and the countryside is more important. The elderly people should gradual retreat their excise intensity little by little and comply with the law of life, scientifically.

Keywords: Shandong Province, elderly people, city and countryside, physical condition difference

遼寧省初中學生近四年體質健康狀況比較與分析

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Junior middle school students in Liaoning Province in recent four years, comparison and analysis of Physique Health

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摘要

研究目的：初中學生作為“全國億萬學生陽光體育運動”開展的重要對象，他們的體質健康狀況是社會關注的焦點。初中階段是人類個體生命過程中極為特殊的階段，生理發育十分迅速，身高體重快速增加，體內各種機能增強，外形和身體內部功能接近成人，但心理發展相對緩慢，半幼稚半成熟是初中生的總特徵。他們的體質健康狀況決定著個體的成長和成才，關係著民族的未來與希望，影響著國民體質的整體水平。提高初中學生的健康水平是基礎工程，是義務教育義不容辭的責任。跟蹤研究遼寧省初中學生健康體能的特點和變化規律，有利於系統瞭解和檢驗初中體育課教學及課外體育活動的效益，有利於從學生的訴求出發宣導“和諧、關愛、自由、平等”的校園氛圍，構建健康和諧的校園體育文化環境，促進陽光體育運動的可持續發展。

研究對象與方法：研究對象來自近2007-2010年遼寧省城市與農村參加《國家學生體質健康標準》測試的初中學生群體，其中城市學生341527人，農村學生299449人。研究採用文獻資料法，運用數理統計法對遼寧省初中學校近四年《國家學生體質健康標準》測試結果進行比較與分析；應用訪談調查法為有效提出增強遼寧省青少年體能素質與健康水平的教學策略服務。訪談圍繞學校體育課程、體育活動、課餘運動競賽以及體育師資情況、體育設施、體育經費投入等方面的內容。訪談物件來自遼寧省教育管理部门及部分市、區的體育教研員、初中學校校長、體育教師和部分城市學校的學生等。

研究結果：近四年遼寧省初中生形態發育呈偏輕趨勢，營養狀況有待改善；

初中生的心血管系統機能、呼吸系統機能以及上下肢肌肉力量和柔韌性均有不同程度的提高，相比之下初中生的上下肢肌肉力量較差，有待提高的比率在40-50%。遼寧省各地區初中學生的體質健康狀況情況不盡相同且變化不均衡，總體上城市學生的體質健康狀況比農村地區差。近四年遼寧省初中學生體質健康水平有提高，整體仍處在及格線附近。

研究對策：

1. 家庭體育是學校體育的基礎和延續，更是終身體育的起點和歸宿。因此，家庭體育是中學生體育教育的原動力。
2. 只有學生體驗到體育運動的樂趣，並把對體育的興趣變成對體育的終身愛好，才能有利於他們的體質健康和成長成才。因此，快樂的終身體育是中學生健康成長的必然選擇。
3. 只有每個學生都找到了合適自己的目標，才能得到相應的成長，只有個人的小體育特長得到發揮，才能實現體育教育的大目標，由此，差異教學是實現初中體育教育目標的重要保證。

Abstract

Research purposes: The junior middle school students as the "Sunshine Sports" to carry out the important objects, their physical health is the focus of social attention. The junior middle school stage is the individual human life process is extremely special stage, physiological development is very rapid, rapid increases in height and weight, body shape and physical function of enhancing, internal functions close to the adult, but the psychological development is relatively slow, half childish mature is the general characteristics of junior high school students. Their physique health status determines the individual growth and development, the relationship between the nation's future and hope, affects the overall level of the national physique. To improve middle school students' health level is the foundation, is the bounden duty of compulsory education. Tracking study of the junior high school students in Liaoning Province health physical characteristics and changing law, to understand and test junior middle school sports teaching and extracurricular sports activity benefit, benefit from the students' appeal of "harmony, care, advocating freedom, equality" campus atmosphere, constructing healthy

and harmonious campus sports cultural environment, to promote the sunlight sports sports sustainable development.

The research object and methods: the study subjects from the close 2007-2010 year Liaoning province city and countryside to "national student physical health standard" test of the junior high school student groups, including city student 341527 people, 299449 people of rural students. Study of using the method of literature, mathematical statistics method to the Liaoning province middle school for nearly four years "national student physical health standard" test results were analyzed and compared; application interview investigation method to effectively put forward to enhance Liaoning province adolescent physical quality and health level of teaching service. Interviews around the school sports curriculum, sports activities, extracurricular sports competition and sports teacher, sports facilities, sports funds etc.. Interviews from the Liaoning Province Department of education administration and city, area sports research, junior high school principals, teachers and part of the city school students.

Results: nearly four years of junior high school students in Liaoning province is light morphological development trend, the nutritional status of middle school students should be improved; the cardiovascular system, respiratory system function as well as the upper and lower limb muscle strength and flexibility are improved to different degrees, in contrast to junior high school students of the upper and lower limb muscle strength is poor, need to be improved in the ratio of 40-50%. Each region of Liaoning province middle school students physical health situation is different and change is not balanced, the overall city students physique health status than rural area difference. Liaoning Province in the past four years of junior middle school students' physical health level has increased, the overall is still in the line to pass near.

Study of countermeasures:

1. The family sports is the foundation of school sports and continuity, is the starting point and destination of the lifelong sports. Therefore, the family sports is sports education motive power.
2. Only the students to experience the sport fun, and put on the sports interest of physical education into lifelong love, can be beneficial to their health and growth. Therefore, happy lifelong physical education is the inevitable choice for the healthy development

of students.

3. Only every student to find a suitable own goal, can get corresponding development, only small individual sports specialty can be exploited, in order to achieve the goals of physical education, thus, differences of middle school physical education teaching is to achieve the goal is important assure.

Effects of Dietary Fiber on Human Health

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Abstract

Purpose: Dietary fiber refers to a kind of carbohydrates, which can't be digested and absorbed by human small intestine. Dietary fiber is the "seventh nutrient" after carbohydrates, protein, fat, water, minerals and vitamins. This paper analyses the impact of dietary fiber on human health and the recommended intake amount, aiming at providing reference for the researchers and promoting its further utilization.

Method: Find out the studies from book or journal or convention or degree thesis, which are about the effects of dietary fiber on people's health. Then classify and sum up them.

Results: Dietary Fiber has a lot effects on human health, thus as suppressing fat, reducing blood glucose and pressure, preventing coronary heart disease, cancers and cholelithiasis, increasing the immunity of body. Water soluble dietary fiber shows better effect than insoluble dietary fiber in preventing and curing coronary heart disease and diabetes, but in preventing and curing cancer, the latter proves to be more effective than the former. Dietary fiber also has some side effects, for example, the over intake can affect the absorption of minerals and trace elements. The recommended intake amounts of dietary Fiber by different institutions are different.

Conclusions: Dietary fiber and people's health correlate. Properly ingesting dietary fiber can prevent and cure many chronic diseases such as diabetes mellitus, cancers and cardiovascular diseases.

Keywords: chronic diseases, dietary fiber, health, propriety

山西省大學生體質狀況與教學實踐研究

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Research on the Situation of Shanxi College Students' Constitution and Teaching Practices

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摘要

本文採用文獻資料法，對山西省大學生的體質狀況進行了比對；從學校體育學的角度，重點分析了影響學生體質指標連續下降的原因；介紹了近年來山西高校體育教學改革的一系列措施。認為：扭轉學生體質指標下降的趨勢，首先是各級教育部門和學校高度重視。學校體育課程目標準確定位，真正樹立健康第一的指導方針。從娃娃抓起，創建從小學、中學、大學的學生體質健康系統工程，才能從根本上提高學生的體質健康水平。

關鍵字：山西，大學生，體質，學校體育

Abstract

By collecting relevant literature, this paper compared the constitution of college students in Shanxi province. It focused on the analysis of reasons for the consecutive decline of students' constitution and introduced a series of PE teaching reform measures in higher school in recent years. It pointed out that central or local education departments and schools should highly emphasize PE education in order to remedy the declining tendency of students' constitution. Schools should exactly fix the position of purposes of PE course and set up the guiding principle of "health the first". To improve students' constitution fundamentally, special attention should be paid to children and a healthy

systems engineering of students' constitution from primary school, middle school to college should be established.

Keywords: Shanxi, college students, constitution, PE course

進一步加強和完善國民體質監測網路和服務體系建設—以長沙市為例

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To strengthen and improve the national health inspection net and the service system construction—take Changsha for example

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摘要

長沙市已成功實施了三次全國國民體質監測，獲得了國民體質的第一手數據，為黨和政府掌握國民體質狀況和發展趨勢提供了有力的科學依據，為實現對全民健身科學的指導，推動群眾體育事業發展提供了堅強的保障。經過10多年的實踐和探索，基本建立了國民體質監測網路體系和服務體系。進一步加強和完善國民體質監測網路和服務體系建設，要從加大宣傳力度入手，建立健全國民體質監測體系長效機制，完善網路和服務體系建設，建立專業化科學化的體質監測、研究隊伍；將國民體質監測成果及時轉化為對國民科學健身的指導；充分調動社會的力量關心、支持國民體質監測，營造國民體質監測和體育健身環境；進一步提高國民體質監測的社會化程度，實現國民參加體質測試由被動行為向主動行為的轉化。

關鍵字：體質監測，網路體系，服務體系，建設

Abstract

Changsha has successfully executed three national health inspection , which has help to obtain plenty of first-hand information and provide a scientific proof for the government to know the current condition and make scientific prediction, as well as provide scientific instructions and guarantee the development of the public fitness.

After ten years practice and exploration, Changsha has built up the national health inspection net and service system .In order to strengthen and improve the health

inspection and the service system construction , effective methods need to be adopted: the promotion needs larger investment to build the national health inspection system; build up professional and scientific health inspection and research teams; apply the achievements of national health inspection to the guidance of the scientific exercise; make full use of the social strength to support the national health inspection ; improve the social activity of the national health inspection, and realize the residents' transformation from passive behavior to active behavior.

Keyword: Health inspection , Internet system, service system, construction

廣東省國民體質測定服務系統建設的規劃研究

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摘要

1.研究背景：城鄉居民國民體質達成率被納入“建設幸福廣東”評價指標體系中，可見廣東省政府對國民體質的重視程度以提升到了一個新的高度。在這樣的背景下，如何更快、更好的建設廣東省國民體質測定服務系統，採取科學的手段獲得準確的數據，通過體質測定服務提高全民健身意識，增強國民體質健康水平和生活品質，使國民體質測定成為廣大群眾隨時可以享受得到的公共服務。如何使廣東省國民體質測定服務工作持續、健康、快速發展成為廣東省國民體質工作亟待解決的問題。

2.廣東省國民體質測定服務系統現狀：廣東省國民體質測定服務網路建設不完善，不能廣泛的為群眾提供服務；當前國民體質測定服務所提供的內容不能滿足廣大群眾的需求，群眾參與度不高；體質測定服務人員的整體業務能力和專業知識水平偏低；經費投入不足；區域發展不平衡等問題。

3.廣東省國民體質測定服務系統建設規劃：

3.1 完善服務網路系統

3.2 廣東省國民體質測定服務體系的結構

3.3 廣東省國民體質測定服務體系提供的服務內容

3.4 構建國民體質數位網路管理系統

4.提高國民體質測定服務運作效率的對策：

4.1 轉變工作方式

4.2 完善培訓機制

4.3 建立科學有效的管理體系

4.4 加強法規建設，促進全省區域、城鄉國民體質測定服務工作全面、協調、可持續發展

5. 結論：廣東省國民體質測定已成為體育部門的常規化工作，城鄉居民體質達成率也納入到“建設幸福廣東”評價指標體系中，成為考核群眾體育工作的重要內容。目前廣東省多數地市進行國民體質測定工作的目的還僅僅是為了完成上級下達的工作任務，而不能全方位的為廣大群眾提供相應的服務，這樣的運作模式已不適應當今社會的發展，不能滿足群眾需求，制約了廣東省國民體質測定工作全面、持續發展。開展國民體質測定的宗旨是為廣大群眾提供服務，指導全民科學健身，因此必須建立系統化、規範化的國民體質測定服務體系。目前廣東省出臺了一系列的措施，制定了廣東省國民體質測定服務體系建設規劃，計畫在“十二五”期間完成廣東省國民體質測定服務網路建設，完善國民體質測定服務體系架構，不斷充實國民體質測定服務內容，力爭打造具有廣東省特色的國民體質測定服務系統。

關鍵字：廣東省，國民體質，服務系統，規劃

廣東省國民體質評定標準的改進研究

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Research on Improving the Regional Physical Fitness Evaluation Standards

摘要

科學準確的對受測者的體質進行評價，根據評定結果指導全民進行體育鍛煉，提高體質水平已成為國民體質測定工作的重要環節，但在實際工作中發現，根據《國民體質測定標準》中的評價標準，為受測者提供的體質評價報告不能準確的反映出廣東省人群的體質特徵，本文從不同的角度研究造成評價標準實效性偏低的原因，為改進廣東省國民體質評定標準提供理論參考。

研究結論：

1. 國民體質監測工作已成為評定國民體質水平，指導全民科學健身的重要手段，因此，建立科學準確的評價標準，是當前國民體質監測工作邁向科學化的重要工作。

2. 《國民體質測定標準》中評價標準的統一性，未能體現出區域差異性，我國地域廣闊，由於自然環境和社會環境等因素的影響，致使不同區域人群體質存在較大差異。如果在國民體質測定服務工作中統一使用國家標準，就不能體現出地域特徵，造成評價結果與本地區人群的體質水平不符，以此評定結果為依據指導群眾進行體育鍛煉時的實效性將大大折扣。

3. 根據廣東省國民體質監測資料庫，結合本地區人群體質特徵及動態變化規律，制定適合廣東省人群的體質評定標準，以此標準作為廣東省國民體質測定服務中的體質評價標準，其評定結果的科學性和準確性將大大提高。

4. 用身高標準體重法來評定人群的身體形態的准學性不高，不能真實反映出人體成分的構成。而當前體重已成為影響體質健康的重要因素，因此在體質測定服務中應把分析人體成分作為體質測定服務的重要內容，建議在服務工作中添加身體成分測試或在評價軟體中添加根據皮褶厚度計算體脂百分比的功能。

5. 在實際工作中發現，肺活量和力量指標與體重存在相關性，一般是體重大的人，肺活量或力量指標的評分比較高，這些指標如果僅用測量的絕對值來評定，不能客觀的反映出體質的真實狀況，建議在體質評定是添加肺活量體重指數和握力體重指數，並建立評定標準，採用絕對值和相對值相結合的方式來評價肺活量水平和力量素質。

關鍵字：廣東省，體質，評定標準

Abstract

This research analyzed the data of the physical fitness measures in the residence of Guangdong Province, and compared which to “The Chinese National Standards of Physical Fitness Measurements” to evaluate the effectiveness of applying these standards in the general population of Guangdong Province. The results demonstrated that there were quite differences between the actual percentage thresholds of all the measurements and the theoretical threshold values from “The Chinese National Standards of Physical Fitness Measurements”. Therefore, the Body Height and Weight method did not correctly evaluate the characteristics of the physical fitness levels of people in Guangdong Province. “The Chinese National Standards of Physical Fitness Measurements” has limitations when being applied to the people in Guangdong. This research results suggested that a modified measurement standards should be established based on the characteristics of the general population in Guangdong Province.

Key words: Guangdong province, National physical fitness, Evaluation standards.

天津市大學生體質健康評價分級模型的構建

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Construction of Hierarchical Model on Evaluating Physical health of University Students in Tianjin

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摘要

研究目的：為研究一種具有定性、定量功能的大學生體質健康狀況的評價方法，用該方法對大學生體質健康狀況資料進行處理，免去查找各指標得分並要進行權重計算的繁雜過程，本研究旨在建立天津市大學生體質健康評價分級模型。該模型能夠克服人為評價的局限性，採用該體質評價分級模型能夠完成大學生體質發展趨勢的定量分析，為制定大學生運動處方、促進大學生自我評價、加強大學生體育鍛煉和促進學校體育教學改革奠定了基礎。

研究對象與方法：以天津49所大學的大一、大二的在校全日制大學生為研究對象，採取整群抽樣方法，從身體健康、無重大疾病的在校本、專科學生中抽取1965人。剔除無效數據（測試專案不全的、離散程度超過3S），其中有效數據為1833人。對所選取的大學生分別進行了身高、體重、肺活量、1000米（女生為800米）、實心球（女生為1分鐘仰臥起坐）、1分鐘跳繩（女生為立定跳遠）六個項目的測試。對所有學生體質測試的數據由Microsoft Excel 儲存，進行異常數據資料（測試專案不全的、離散程度超過3S）篩選以後，建立資料庫。利用SPSS數據統計軟體對篩選後的有效數據進行處理，運用聚類分析對原始數據進行分類，並運用判別分析法建立判別函數，最後計算判別方程的回代符合率。

研究結果：

1. 男大學生體質優秀、良好、及格與不及格的四個線性判別函數分別為：

$$F1=5.543X1-0.782X2+0.0777X3+0.773X4+0.0574X5+0.485X6-712.453 \text{ (Level Excellent)}$$

$$F2=5.614X1-0.799X2+0.0380X3+0.778X4+0.0613X5+0.475X6-560.257 \text{ (Level Good)}$$

$$F3=5.489X1-0.817X2+0.0646X3+0.772X4+0.0422X5+0.483X6-653.429 \text{ (Level Pass)}$$

$$F4=5.513X1-0.813X2+0.0524X3+0.778X4+0.0911X5+0.482X6-603.633 \text{ (Level Fail)}$$

2. 女大學生體質優秀、良好、及格與不及格的四個線性判別函數分別為：

$$F1=5.176X1-1.106X2+0.0558X3+0.941X4+0.231X5-0.101X6-544.692 \text{ (Level Excellent)}$$

$$F2=5.221X1-1.077X2+0.0255X3+0.924X4+0.245X5-0.076X6-452.784 \text{ (Level Good)}$$

$$F3=5.207X1-1.092X2+0.0419X3+0.916X4+0.235X5-0.119X6-500.634 \text{ (Level Pass)}$$

$$F4=5.209X1-1.116X2+0.0338X3+0.909X4+0.231X5-0.103X6-472.346 \text{ (Level Fail)}$$

3. 男生體質健康評價分級模型的總錯判率為1.90%，總判對率為98.10%。女生體質健康評價分級模型的總判對率為97.85%，錯判率為2.25%。

研究結論：用本“評價模型”對學生個體進行定量評價具有較高的靈敏性，其設計思想與大學生體質健康水平分佈的實際情況相符合，運用本模型可對學生個體或群體進行綜合評價，實現對學生體質類別的科學快速分類是可行的。

關鍵字：體質健康，大學生，分層模型

Abstract

Objective: In order to find a method to evaluate university students' physical health qualitatively and quantitatively, which can avoid complicated calculation, the author wanted to construct a Hierarchical Model. This model can overcome the limitations of personal factors, can make quantitative analysis on university students' physical health, make exercise prescription for students, promote the university students' self-evaluation, enhance students to do exercise and help to do P.E. teaching reforms in universities.

Methods: By using the cluster sampling method, the author chose 1965 universities

students, of which the valid data were from 1833 students. The test indexes included height, weight, vital capacity, 1000 m (800 meters for girls), medicine ball (1 minute sit-ups for girls), 1 minute rope skipping (standing long jump for girls). All the data was set in Microsoft Excel. By using of SPSS software to process data, clustering analysis to classify data, and discriminant analysis to build discriminant function, and finally calculate the general coincidence rate of the equations.

Results:

1. The four Fishers for male students were:

$$F1=5.543X1-0.782X2+0.0777X3+0.773X4+0.0574X5+0.485X6-712.453 \text{ (Level Excellent)}$$

$$F2=5.614X1-0.799X2+0.0380X3+0.778X4+0.0613X5+0.475X6-560.257 \text{ (Level Good)}$$

$$F3=5.489X1-0.817X2+0.0646X3+0.772X4+0.0422X5+0.483X6-653.429 \text{ (Level Pass)}$$

$$F4=5.513X1-0.813X2+0.0524X3+0.778X4+0.0911X5+0.482X6-603.633 \text{ (Level Fail)}$$

2. The four Fishers for female students were:

$$F1=5.176X1-1.106X2+0.0558X3+0.941X4+0.231X5-0.101X6-544.692 \text{ (Level Excellent)}$$

$$F2=5.221X1-1.077X2+0.0255X3+0.924X4+0.245X5-0.076X6-452.784 \text{ (Level Good)}$$

$$F3=5.207X1-1.092X2+0.0419X3+0.916X4+0.235X5-0.119X6-500.634 \text{ (Level Pass)}$$

$$F4=5.209X1-1.116X2+0.0338X3+0.909X4+0.231X5-0.103X6-472.346 \text{ (Level Fail)}$$

3. The total misclassification rate and right percentage of male Fisher was 1.90%, 98.10%, and the total misclassification rate and right percentage of female Fisher was 2.25%, 97.85%, respectively.

Conclusions: The Hierarchical Model on Evaluating Physical health of University Students has high sensitivity, the design thought was corresponded with the actual distribution of university students' physical health. And this model can make individual or group evaluation on university students, do quick classification for students' physical category.

Keywords: Physical Health, University students, Hierarchical Model

不同年齡人群肌肉耐力變化規律及評價指標的篩選

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Muscular endurance of different age groups variation of the screening and evaluation indicators

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摘要

研究目的：肌肉耐力是肌肉力量評價的重要方面，與人體工作能力、心肺機能顯著相關。我國現行的國民體質測試標準中肌肉耐力測試採用仰臥起坐（女性）、俯臥撐（男性）為指標評價，測試部位局限於腰腹部及上肢，不能充分反映各年齡段人群肌肉耐力發展和衰減不平衡狀況。另外我國目前針對各年齡段人群肌肉耐力進行測試與評價及全面的標準化測試方法等研究還比較少。本研究在參照國內外研究成果的基礎上，整理、集成目前國內外應用的部分肌肉耐力量測試方法，篩選出能反映不同部位肌肉耐力的測試指標，對各年齡段受試者進行指標測試，以實驗資料為基礎探討我國普通人群不同部位肌肉耐力變化規律，並初步建立能較全面反應各年齡人群肌肉耐力的測試方法，彌補國內相關研究的空白。

研究方法：20~59歲志願健康受試者600名（男女各半）。按性別及5歲範圍分組，進行仰臥推舉15RM（kg），俯（男）、跪（女）臥撐（次數），負重屈肘15RM（kg），屈臂支撐（S），仰臥舉腿（次），1min連續深蹲起（次）測試。採用Pearson相關分析，計算不同指標實驗數據的相關係數；採用單因素方差分析，計算各年齡組肌肉耐力指標的差異性，顯著水平取 $p < 0.05$ 。

研究結果：

1. 男性俯臥撐次數與仰臥推舉15RM、負重屈肘15RM呈低度相關；女性跪臥撐則與仰臥推舉15RM、負重屈肘15RM均無相關性，男、女仰臥推舉15RM與負重屈肘15RM之間呈中、高度相關，仰臥舉腿次數與屈臂支撐時間呈低度相關。

2. 男性上肢肌耐力在30~34歲達到最大值，35歲開始出現下降，60歲後明顯下降；軀幹肌耐力在35歲呈穩定狀態之後出現緩慢下降，50歲後下降明顯；下肢肌耐力在20~24歲達到峰值水平，此後呈下降趨勢，35~39歲年齡組發生明顯下降。

3. 女性上肢肌耐力在25~34歲達到最大值，35~39歲開始出現下降趨勢，50歲後下降明顯；軀幹肌耐力在25~29歲達到峰值，30~34歲出現明顯下降，之後下降趨勢較緩。女性下肢肌耐力在25~29歲年齡組達到峰值，此後呈下降趨勢，45~49歲發生明顯下降。

結論：通過對動作難度、安全性、適用性的理論分析，以及不同測試方法間的相關性檢驗，本研究篩選出負重屈肘15RM、屈臂支撐時間、連續深蹲起次數作為不同部位肌肉耐力的評價指標。這些指標難易適中、安全性較高、可適用於不同年齡人群。同時，本研究結果還表明，所選指標能較好的反映肌肉耐力的增齡性變化規律。

關鍵字：肌肉耐力，國民體質，規律

Abstract

Objective: Evaluation of muscle endurance is an important aspect of muscle strength, ability to work with the body, heart and lung function were significantly correlated. China's current national testing standards body muscular endurance test used in sit-ups (female), push-ups (male) as indicators to assess, test parts of the waist and abdomen and upper limit, can not fully reflect all age groups unbalanced muscular endurance development and attenuation conditions. In addition China's current population of all ages for muscular endurance test and evaluation and comprehensive study of standardized test methods is still relatively small. In this study, in the light of international research based on the results, sorting, integrated part of the application at home and abroad muscle strength resistance test method selected to reflect different parts of the muscle endurance test indicators, indicators of subjects of all ages tested, the basis of experimental data to the general population of our country variation in different parts of the muscular endurance, and the initial establishment of a comprehensive response to all age groups compared with the muscle endurance test methods, relevant research to make up the domestic blank.

Methods: 600 subjects of healthy volunteers aged 20 to 59 (evenly divided between men and women). By sex and 5-year-old range group, the bench press 15RM (kg), overlooking the (male), kneeling (female) lying support (number), weight-bearing elbow 15RM (kg), bent arm support (S), supine leg raise (times), 1min consecutive squat (times). Using Pearson correlation analysis to calculate the experimental data of different indicators of the correlation coefficient; using single-factor analysis of variance to calculate the indicators in each age group differences in muscle endurance, take a significant level of $p < 0.05$.

Results:

1. The number of male push-ups and bench press 15RM, 15RM load was low related to elbow; woman kneeling with the bench press is lying support 15RM, 15RM weight-bearing elbow were not correlated, male and female weight-bearing flexion with the bench press 15RM between the elbow 15RM was in a high degree of correlation, the number of supine leg raise and bent low to support time was related.
2. Male upper limb muscle endurance in 30 to 34-year-old reached the maximum 35-year-old began to decline, decreased significantly after the age of 60; trunk muscle endurance in a steady state after 35 years of slow decline, decreased significantly after the age of 50; lower limb muscle endurance 20 to 24 years to reach peak levels, after declining 35 to 39 age group occurred significantly decreased.
3. Upper limb muscle endurance in women 25 to 34 years maximum, 35 to 39 years old began to decline, decreased significantly after the age of 50; trunk muscle endurance in 25 to 29 years to reach the peak, 30 to 34 years old marked decline, followed by moderate downward trend. Lower limb muscle endurance reached its peak in women 25 to 29 age group, then decline, occurred 45 to 49 years decreased significantly.

Conclusion: The difficulty of movement, safety, applicability of theoretical analysis, and correlation between different test methods test, this study selected weight-bearing elbow 15RM, bent support time, the number of consecutive squat as different parts of the muscular endurance evaluation index. These indicators difficult moderate, high security can be used in different age crowd. Meanwhile, the results of this study also showed that the selected indicators to better reflect the age-related muscle endurance variation.

Keywords: muscular endurance, the national constitution, laws

影響高校學生體質健康發展水平的相關心理因素研究—以西安石油大學為例

侯令忠

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A Research on the Psychological Factors Affecting the Physical Health of College Students—based on Xi'an Shi You University

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摘要

研究目的：通過學生體質健康測試，從心理的角度探索影響學生體質健康發展水平因素，推進體育教學改革，促進學生的身體健康水平具有極其重要的現實意義。

研究方法：綜合運用文獻資料法、專家訪談法、問卷調查法、數理統計等方法全面系統的分析影響學生體質健康的相關心理因素。

結果：

1. T檢驗結果表明，不同性別的學生，體質健康測試總分不存在顯著性差異，但從平均值來看男生（62.41）高於女生（61.99）；男生和女生在體育“壓力懼怕”、“情緒擔憂”、“考試焦慮”、“學習信心”、“探究動機”、“工作投入”、“自我投入”層面等變數有顯著性差異。

2. 單因素方差（One-Way ANOVA）分析表明，大一、大二、大三體質健康測試成績存在顯著性差異；體育焦慮水平，大一與大二存在顯著性差異，大一與大三，不存在差異；大一與大三、大二與大三對待體育學習與體育鍛煉的態度不存在顯著性差異，但大一與大二在體育態度層面上存在顯著性差異。

3. 利用學生體質健康成績作為因變數，以學生性別、體育焦慮、體育態度、體育投入動機等11項指標作為引數，建立回歸方程：

$$\text{學生體質健康測試成績} = 58.966 + 0.088 \times \text{學習信心} + 0.065 \times \text{有用性} \\ + 0.085 \times \text{探究動機}$$

4. 路徑分析表明影響學生體質健康途徑有4條顯著路徑：第一條為體育焦急→體育態度→體質健康測試成績；第二條為體育焦慮→體育投入動機→體育態度→體質健康測試成績；第三條為體育投入動機→體育態度→體質健康測試成績；第四條為體育態度→體質健康測試成績。

結論：

1. 不同性別的學生，體質健康測試總分不存在顯著性差異。
2. 不同年級體質健康測試成績存在顯著性差異，大二好於大一，大三最差；體育焦慮水平存在顯著性差異；體育鍛煉的態度與體育投入動機不存在顯著性差異。
3. 體育學習信心、有用性、探究動機這三個層面與被解釋變數間的線性關係顯著，可以對學生體質健康測試成績進行較有效的預測。
4. 對學生體質健康成績影響有4條顯著路徑。要提高學生的體質健康水平，首先要從學生的體育態度入手，增強體育學習信心，提高對體育功能的認識，使他們對體育的主動探究變為成功實踐途徑。

關鍵字：學生體質健康，心理因素，大學生

Abstract

The purpose of the research: The research is to explore the psychological factors that affect the development of students' physical health by testing the students' physical health, and thus to promote the physical education reform and improve students' health.

The research methods: literature, interviews with experts, questionnaires and mathematical analysis

The results:

1. T test results show that there is no significant difference in the test scores of students of different genders, but the average score of boys are higher than that of girls; and there is significant difference between boys and girls in "fear of pressure", "emotional concern", "test anxiety", "learning confidence", "motivation to explore", "job involvement" and "self-involvement".

2. One-way ANOVA analyses show that the test scores of freshmen, sophomore and junior are significantly different; there is significant difference in sports anxiety between freshmen and sophomore while no difference between freshmen and junior; as for the attitude toward physical learning and exercise there is no significant difference among them, but there is significant difference in the attitude to sports between freshmen and sophomore.
3. To take students' physical health scores as the dependent variable, students' gender, physical anxiety, attitude to P.E and the motivation of physical involvement as independent variables to create regression equation:

The test score of students' physical health = $58.966 + 0.088 \times \text{learning confidence} + 0.065 \times \text{usefulness} + 0.085 \times \text{motivation to explore}$

4. The path analysis shows there are four paths affecting students' health: first, sports anxiety \rightarrow attitude toward P.E \rightarrow physical health test score; second, sports anxiety \rightarrow the motivation of physical involvement \rightarrow attitude toward P.E \rightarrow physical health test score; third, the motivation of physical involvement \rightarrow attitude toward P.E \rightarrow physical health test score; fourth, attitude toward P.E \rightarrow physical health test score.

Conclusion:

1. There is no significant difference in the physical health test scores of students of different genders.
2. There is significant difference in the scores of students in different grades, the sophomore are better than the freshmen, and the junior are the worst; there is no difference in the attitude to physical exercise and the motivation of physical involvement.
3. There is a significant linear relationship between the explanatory variables and sports learning confidence, usefulness and the motivation to explore, and the physical health test scores of students can be predicted effectively.
4. There are four paths affecting the physical health test scores of students. In order to improve students' physical health, we should start with their attitude to physical education to enhance their learning confidence and increase their awareness of the function of physical education and try to change their active exploration of sports into a practical approach to success.

Keywords: students' physical health, Psychological Factors, College Students

我國學生體質測定標準之力量素質評價指標與方法演進及啟示

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The Evolution and Enlightenment about Evaluation Index and Method of Strength Quality in Chinese Student's Physical Fitness Standard

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摘要

本文在梳理中國學生體質測定標準發展歷程的基礎上，著重研究力量素質的評價指標與評價方法，得出力量素質測定雖日臻完善，但仍須：適當增加力量素質的權重，優化評價指標，完善評價方法以及規範標準名稱。本研究的目的是在於，完善現有的力量素質測定，為建立符合國際發展趨勢與中國青少年體質測定實際的評價指標體系與評價方法提供理論參考。

關鍵字：體質測定標準，力量素質，評價指標，評價方法

Abstract

This thesis is a research into the evaluation index and method of Strength Quality. According to trace back the development history of Student's Physical Determination Standard in China, it is showed that the Determination of Strength Quality becomes better and approaching perfection day by day. However, it still needs better illumination such as increasing the deciding weight of strength quality properly, optimizing the evaluation index, completing the evaluation method and perfecting the standard name. So my thesis is mainly aimed at improving the Determination of Strength Quality. And then it provides theoretical reference for new evaluation index system and evaluation method which not only catch up with international trends but also suitable for Chinese youths' real physical condition.

Keywords: physical fitness standard, strength quality, evaluation index, evaluation method

青島市城鄉老年人體質狀況及體育鍛煉情況的比較分析

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Comparative analysis of physical fitness and participating in physical exercise for urban and rural-urban elderly in Qingdao

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摘要

為探討青島市老年人體質現狀、城鄉差異以及城鄉老年人參加體育鍛煉的情況，將361名青島市老年人按照城鄉、男女分為男城鎮組、男農村組、女城鎮組和女農村組，分別進行比較分析，並根據問卷對城鄉老年人參加體育鍛煉的情況進行統計，結果發現青島市城鎮老年人在身體機能、身體素質上明顯好於農村老年人，參加體育鍛煉的情況也好於農村老年人。因此，建議加快農村體育健身事業的發展，改善農村老年人的體質狀況。

關鍵字：老年人，體質，體育鍛煉，城鄉差異

Abstract

To explore the physical fitness of the elderly in Qingdao, urban and rural-urban differences and in the case of the elderly to participate in physical exercise, the 361 Qingdao elderly will be grouped into urban men group, urban women group, rural men group and rural women group by urban and rural, men and women, comparative analysis respectively, and statistic urban and rural elderly on participate in physical activity according to the questionnaire, The result is that the physical function, physical fitness of urban elderly is obviously better than the rural elderly in Qingdao, the situation of participating in physical exercise is better than the rural elderly. Therefore, it is recommended to accelerate the development of rural sports, fitness, improving the physical condition of the rural elderly.

Keywords: elderly, physical fitness, exercise, urban and rural-urban differences

湖北省成年人的“實際”體質與“感覺”體質的分析

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The Analysis on Hubei Adult's Physical fitness in Practice and Physical Self-Assessment

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摘要

1. 研究目的：探討不同人群體質的實際狀況與他們對體質的自我感覺。

2. 研究方法：

總樣本量為36467人（20-59歲），男女分別18113人和18354人。

本研究分別選用了問卷第11題“您認為自身的體質狀況如何”（“感覺”體質）和多項檢測指標綜合評定得出的“體質總評”（“實際”體質）為研究指標。

問卷11題原來分5類，即“好”、“較好”、“一般”、“較差”和“差”，本研究簡化成“好”、“中”、“差”3類。為了與體質“實際達成率”（合格及以上）的概念相對應，本文還將簡化後的自我感覺“好”和“中”合併處理，並稱之為體質的“感覺達成率”。

3. 研究結果：實際體質的總體情況為：“優秀”占22.1%，“良好”占21.2%，“合格”47.1%，“不合格”占9.6%，體質“達成率”為90.4%。男性的“體質達成率”和“優秀率”比女性分別約高出1%和3%（ $P < 0.05$ ）；年最小的20-29歲組“體質達成率”不到88%，而3個較大的年齡組百分比都在91%以上；農民、城鎮體力勞動者和城鎮非體力勞動者“體質達成率”分別

是87.0%、91.5%和92.6%，表明城鎮人群的“體質達成率”大於鄉村人群（ $P<0.05$ ），非體力勞動者大於體力勞動者（ $P<0.05$ ）；受教育程度與“體質達成率”呈現的高度一致性，即受教育程度越高“體質達成率”也越高，“未上過學”人群的“體質達成率”與“大學及以上”人群的差距高達12.8%。

“感覺達成率”達到94.5%，與實際情況相比人們的自我感覺似乎更加良好。在以對體質的自我感覺分組中，“好”、“中”、“差”的實際體質“達成率”分別為91.1%、90.3%、84.5%（ $P<0.05$ ），自我感覺“好”的實際體質“優秀率”更高（為23.5%， $P<0.05$ ）。然而，體質的自我感覺“好”的人中仍然有8.9%的人體質“不合格”，而感覺“差”的人中仍然有84.5%的“體質達成率”；“感覺達成率”隨著年齡增加而逐漸下降，“實際達成率”則年齡較大的組別更高，“感覺”與“實際”的差距20-24歲組高達9.4%，隨著年齡的增加，這種差距逐漸減小，到55-59歲組完全相等。

4. 結論：

4.1 2010年湖北22-59歲人群“體質達成率”90.3%，其中男高於女、城高於鄉；

4.2 受教育程度越高“體質達成率”也越高，最大差距達12.8%；

4.3 “感覺達成率”為94.5%，對自身體質自我感覺“好”的人實際體質“達成率”最高；

4.4 體質自我感覺“好”的人中仍然有8.9%的人體質“不合格”，而感覺“差”的人中仍然有84.5%的體質達標。

關鍵字：體質，成年人，自我感覺

Abstract

- 1. Objective:** This paper aims to discuss Hubei adult's physical fitness in practice and their physical fitness in self-assessment, who has been divided into different groups according to their sex, age and career, etc.
- 2. Research Methods:** The overall amount of tested samples is 36467 (age 20-59), including 18113 of male and 18354 female.

The research indexes in this paper are the 11th question from the questionnaire, “How do you assess your physical fitness?” (“Physical Self-Assessment”), and “overall assessment of physical fitness” (“Physical Fitness in Practice”) that are estimated from the several test indexes.

In this paper, the 5 original options (excellent, good, fair, poor, and terrible) in the 11th question have been simplified into 3 options (good, fair, and poor). In order to make the study more compatible to the conception of “physical qualified rate in practice” (including fit and beyond), this paper has also merged “fair” and beyond into one conception, refer as to “physical self-assessment qualified rate”.

- 3. Results:** The result shows that 90.4% people has been estimated as reaching the physical qualified rate, comprises of 22.1% of “excellent”, 21.2% of “good”, 47.1% of “fit” and 9.6% of “unfit”. Male’s physical qualified rate and percentage of excellence is respectively higher than female’s by about 1% and 3% ($P < 0.05$). The youngest group’s (age 20-29) physical qualified rate indicates no more than 88%, while the rest of other groups’ have reached above 91% respectively. Among different career groups, the rural residents’ physical qualified rate is 87.0% compares to 91.5 % of urban manual workers as well as 92.6% of urban non-manual workers. The urban residents’ physical qualified rate is significantly higher than the rural residents’ ($P < 0.05$), while the urban non-manual workers’ is significantly higher than the urban manual workers’. The result of this study also demonstrates a fact that people’s physical qualified rates are highly relevant to their educational background. For instance, the difference of physical qualified rate between “unliterate” group and “under and post graduate” group is significant, by a percentage of 12.8%.

This study also indicates that people’s self-assessment of their physical fitness are often better than their practical situations. The overall “physical self-assessment qualified rate” is 94.5%. For those regard their physical situation as “good”, “fair” and “poor”, their practical qualified rate are respectively 91.1%, 90.3%, and 84.5% ($P < 0.05$), and the percentage of excellence in practice of “good” is the highest (23.5%, $P < 0.05$). However, among those who regard their physical fitness as “good”, the fact is that there are still 8.9% of them are practically unfit. The people assess themselves “poor” actually reach the qualified line by 84.5%. People’s physical self-assessment qualified rate fall as their age rise, comparatively, their practical physical qualified rate ascends

as their age go up. Namely, the groups with older age perform better than the younger one in practical physical fitness. The age 20-24 group shows the biggest difference between the qualified rates of their self-assessment and actual physical fitness, by a percentage of 9.4%, while this difference inclines to disappear progressively as people's age grow. The self-assessment rate of age 55-59 group literally matches up to its practical qualified rate.

4. Conclusions:

4.1 The physical qualified rate of 2010 Hubei age 22-59 group hits 90.3%. The male's physical qualified rate is higher than the female's while the urban residents' is higher than the rural residents'.

4.2 People's physical qualified rates are highly relevant to their educational background. The difference of physical qualified rate between "unliterate" group and "under and post graduate" group is significant, by a percentage of 12.8%.

4.3 People's physical self- assessment qualified rate hits 94.5%. Those who regard their physical fitness as "good" perform better than the rest in practical qualified as well as excellent level.

4.4 Among those who regard their physical fitness as "good", the fact is that there are still 8.9% of them are practically unfit. There are 84.5% of people who consider their physical fitness as "poor", are actually qualified.

Keywords: Physical fitness, Adult, Self-assessment

湖北省成年組肥胖影響因素的探討

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Influence of Obesity on the Adult in Hubei Province

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摘要

目的：瞭解湖北省成年組肥胖的影響因素，為制定相應、有效的預防措施提供依據。

方法：分析2010年湖北省國民體質監測調查問卷中的部分項目和數據，專案有教育程度、職業類型、飲食習慣、生活方式等；數據是肥胖指標，採用體質指數(BMI)，體重(kg)/身高的平方(m²)作為肥胖的診斷標準，即BMI：BMI < 18.5為體重過低，18.5~23.9為正常體重，24.0~27.9為超重，≥28.0為肥胖。統計分析使用SPSS13.0進行卡方檢驗總和Logistic回歸分析。

結果：湖北省成年組肥胖的影響因素主要是：性別、年齡、教育程度、外出就餐天數、熬夜、壓力和自覺體質，其中女性肥胖的風險明顯低於男性，成年甲組肥胖的風險明顯低於成年乙組。由於這種性別和年齡間肥胖風險的差異，將性別和年齡做為混雜因素，重新分析其他指標。可知，男性中，職業類型、外出就餐和熬夜是男性肥胖的風險因素；女性中，教育程度和壓力是女性肥胖的風險因素；成年甲組中，教育程度、職業類型、外出就餐、熬夜和壓力是成年甲組肥胖的風險因素；成年乙組中，外出就餐、壓力和自覺體質是成年乙組的風險因素。

結論：高教育程度和腦力勞動使體力活動減少，是肥胖的高風險因素，提示適當運動的必要性；不良飲食習慣、睡眠不足、大的工作壓力改變了身體的代謝平衡，也是肥胖的高風險因素，提示規律的飲食生活習慣和輕鬆的心情可以改善肥胖這種亞健康狀態。

關鍵字：肥胖，成年組，男性，女性

Abstract

Objective: To determine the relative factors associated with obesity on the adults.

Methods: Testing the data of 2010 national physical fitness by chi-square test and Logistic regression analysis, this research has analyzed their habits and ways of life, and discussed the causes of obesity.

Results: The main factors caused the adult obesity problem might be gender, age, education level, dine out days, stay up late, pressure and consciously physique, and female's risk of obesity was significantly lower than the male, 20~39 aged people the risk of obesity was significantly lower than 40~59 aged people. Because of the gender and age difference between the risk of obesity, this research has reanalyzed all indexes without the confounding factors about gender and age.

Conclusion: The main factors caused the adult obesity problem might be aducational status, mentai work, bad life-style, short bedtime and the huge pressure of work.

Keywords: Obesity, Adult, Male, Female

浙江省高校《國家學生體質健康標準》選測項目的分析

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Analysis of optional test items in Student Physical Health Standard for institutes of higher learning in Zhejiang Province

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摘要

《國家學生體質健康標準》是國家對學生體質健康方面的基本要求，其中豐富的選測專案給各個學校以充分的自主權，但是對浙江省24所高等院校的調查發現，每個學校測試的項目大致相同，且重複率較高；某些項目，如足球運球、籃球運球、排球墊球、擲實心球、仰臥起坐、引體向上和跳繩等，幾乎未被採用過；58%的院校採用800/1000米、握力、立定跳遠的選測專案組合，測試組合較為單一；測試專案的欲測屬性上，更多測試了心肺能力和力量素質，缺乏對於速度、柔韌、靈敏、協調等素質的測試。提示，對測試專案組合的評定和優化已經成為提高測試水平和如實反映當代大學生身體素質的當務之急。

關鍵字：大學生，體質測試，選測項目

Abstract

National Student Physical Health Standard is the basic requirements of state for physical health in students, including a rich selection test items to each school to full autonomy, but the 24 institutions of higher education in Zhejiang Province found that each school testing program are similar, higher repetition rate; certain items, such as soccer dribbling, basketball dribbling, Volleyball, throwing medicine ball, sit-ups, chin-up and skipping, etc., had almost not been used; 58% of the institutions to adopt 800/1000 meters, grip strength, standing long jump test project portfolio selection, testing a combination of more single; predict properties of the test project, the more tests the heart and lung capacity and

power quality, the lack of the speed, flexibility , sensitive, and coordination of quality tests. Tips on testing and optimization of portfolio assessment test has been increased to reflect the true level and physical fitness of college students a priority.

Keywords: college students, physical fitness test, optional test items

國民體質監測數據預處理方法的研究

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Studies of Civil Constitution Monitoring Data Pretreatment Methods

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摘要

學界普遍重視對數據收集和數據分析的研究，卻相對忽視對數據收集之後、正式分析之前這一中間階段的研究，我們把這一中間階段稱之為統計數據預處理階段。國民體質監測的目的是要充實並完善國民體質監測系統和數據庫，瞭解我國國民體質現狀和變化規律，為全民健身計畫提供科學依據，為國家經濟建設和社會發展服務。顯然要得到可靠、可信的結果，數據是關鍵。數據的收集和分析固然重要，而統計數據預處理直接決定著分析數據的品質，影響到統計結果的可信度及以此做出決策的科學性，因此對涉及的理論和方法進行研究是十分必要的。基於此，本文從提高體質監測數據品質的角度，結合體質監測數據的特點，介紹了國民體質監測數據預處理的具體過程以及該過程中遇到的問題和解決辦法。國民體質監測統計數據預處理是提升資料品質的重要階段，包括紙質版資料初篩、編號、建立rec.資料庫、數據錄入、自查數據、交叉檢查、數據轉換、合併數據八個步驟。選用恰當的方法開展統計數據預處理，有利於得出真實、準確的統計分析結論。根據國民體質監測數據的特點，統計數據預處理可採用的方法

包括描述性分析、缺失值及異常值的處理、數據變換等。

關鍵字：國民體質監測，數據料品質，數據預處理，缺失值，異常值

Abstract

The academic circles paid much attention to the research of data collection and data analysis, but relatively less to data collection, formal analysis after the middle before a phase of the study, and we put the middle stage called statistical data pretreatment stage. The purpose of civil constitution monitoring is to enrich and perfect the civil constitution monitoring system and database, understand the physical status and change rule of citizens, provide the national fitness program with scientific basis, give service to the national economic construction and social development. Obviously, the data is the key to get reliable and credible results. Data collection and analysis is important, though, statistical data pretreatment directly determine the quality of analysis, then influence the credibility of the statistics and make decision-making more scientific, therefore, it is necessary to carry on research involved in the theory and method. Based on this cognition, from the point of view of improving quality of the constitution monitoring data, combining the characteristics of data, this paper introduces the concrete process of the civil constitution monitoring data pretreatment and problems in the course and solution. Civil constitution monitoring data pretreatment includes paper version data sieve, Numbers, set up at the beginning of the rec. Database, data entry, self-examination data, cross check, data transformation, merging data eight steps, it is an important stage to improve the quality of the data. Choosing the right method to statistical data pretreatment is helpful for genuine, accurate statistics analysis conclusion. According to the characteristics of civil constitution monitoring data, statistical data pretreatment can use methods including descriptive analysis, missing value and processing of abnormal values, data transformation, etc.

Keywords: civil constitution monitoring, data quality, data pretreatment, missing value abnormal values

中國六城市兒童青少年骨齡發育現狀和預測方程研究

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Bone Age and Its Predictors of Children and Adolescents in Six Chinese Metropolises

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摘要

研究目的：本研究調查全國六大行政區域六所城市的兒童青少年的骨齡發育現狀，並根據身高、體重、性別、實際年齡建立骨齡預測方程。

研究方法：本研究採用分層整群抽樣方法，選取上海市、廣州市、西安市、成都市、瀋陽市、天津市的9-17歲兒童青少年1996人參加測試。測試儀器採用Sunlight BonAge™超聲骨齡測試儀，同時測量身高、體重等身體形態指標。應用SPSS18.0軟體進行統計分析，生活年齡和骨齡之間的比較採用配對樣本T檢驗，不同性別兒童青少年骨齡之間的比較採用獨立樣本T檢驗。骨齡與身高、體重、性別、實際年齡之間的關係採用線性回歸模型進行分析，以骨齡作為因變數，身高、體重、性別、實際年齡作為引數建立骨齡的預測方程。

研究結果：

1. 完成測試的研究對象共1936人，其中男999人，占51.6%。
2. 兒童青少年的骨齡隨年齡增長而增加。對於男性，9歲年齡段，骨齡與生活年齡無顯著性差異；10-17歲年齡段，骨齡大於生活年齡，具有顯著性差異（ $P < 0.01$ ）。對於女性，9-15歲、17歲年齡段，骨齡大於生活年齡，具有顯著性差異（ $P < 0.05$ ）；16歲年齡階段，骨齡與生活年齡無顯著性差異。
3. 男性與女性兒童青少年之間骨齡比較，9歲、11歲、13歲、14歲、17歲年

齡段，均無顯著性差異；10歲、12歲年齡段，女性大於男性，具有顯著性差異（ $P<0.01$ ）；15歲、16歲年齡段，男性大於女性，具有顯著性差異（ $P<0.01$ ）。

4. 總體研究對象中，55.1%的兒童青少年為早熟型，40.4%為平行熟型，4.5%為晚熟型，其中，男性中52.6%為早熟型，42.4%為平行熟型，4.9%為晚熟型，女性中57.7%為早熟型，38.2%為平行熟型，4.1%為晚熟型。

5. 以骨齡作為因變數，身高、體重、性別、實際年齡作為引數，線性回歸模型顯示身高（ $B=0.056$ ，95%CI=0.047-0.064， $p=0.000$ ）、體重（ $B=0.015$ ，95%CI=0.009-0.021， $p=0.000$ ）、性別（ $B=0.452$ ，95%CI=0.337-0.567， $p=0.000$ ）和實際年齡（ $B=0.743$ ，95%CI=0.706-0.779， $p=0.000$ ）是骨齡的預測因數。

結論：自9-10歲開始，兒童青少年骨齡發育普遍早於實際年齡，男女性在13-14歲出現性別交叉，之前女性骨齡大於男性，之後男性骨齡大於女性。9-17歲兒童青少年的骨齡預測方程為：骨齡= $-5.187+0.056\times$ 身高 $+0.015\times$ 體重 $+0.452\times$ 性別 $+0.743\times$ 年齡（*：當性別為女，取值為1；當性別為男，取值為0）。

關鍵字：兒童，青少年，骨齡，預測方程

Abstract

Purposes: This study aimed to describe the status of bone age (BA) of Chinese youth in six administrative districts of China, and to build up the BA prediction equation based on height, weight, sex and age.

Methods: Participants were 1936 children's and adolescents aged 9–17 years (boys=999) from six cities: Shanghai, Xi'an, Chengdu, Shenyang, and Tianjin. Bone age was assessed by Sunlight BonAge™. Height and weight were also measured. Comparison between chronological age (CA) and BA within participant was made using paired sample T test; difference of BA between genders was determined by independent sample T test. Linear regression model was used to examine the association between BA and height, weight, sex, and age, and to build up the prediction equation for BA.

Results: BA increased with the increasing of age for all participants. For boys, from 10 to 17 years, BA was greater than CA($p<0.01$); similar trend was also found in girls

with the only exception in 16 years. Girls' BA was greater than boys' in 10 and 12 years($p<0.01$), while in 15 and 16 years boys had a higher BA than girls($p<0.01$). Of all the participants, early-maturing is 55.1%, late-maturing is 4.5%, parallel-maturing is 40.4%. Linear regression model analyses indicated that height($B=0.056$, 95%CI=0.047-0.064, $p=0.000$), weight($B=0.015$, 95%CI= 0.009-0.021, $p=0.000$), sex ($B=0.452$, 95%CI=0.337-0.567, $p=0.000$), and age($B=0.743$, 95%CI= 0.706-0.779, $p=0.000$) were all significant predictors for bone age.

Conclusion: Prematurity of bone was found in both boys and girls since 9 – 10 years. The prediction equation for bone age of children and adolescents aged 9–17 years was: $BA=-5.187+0.056\times\text{height} +0.015\times\text{weight}+0.452\times\text{gender}^*+0.743\times\text{age}$ (for female, sex=1; for male, sex=0).

Keywords: children, adolescents, bone age, prediction equation

大學生組合式健身理念的研究初探

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College students' fitness philosophy research combined discussed

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摘要

從近年來我國大學生體質健康測試結果看，大學生的身體素質明顯下降。雖然高校體育教學部門針對此現象採取了諸多措施，但鍛煉方法以及鍛煉的科學性和鍛煉的隨意性仍存在大面積問題。總結以往體育鍛煉當中不同模式產生鍛煉效果，在研究中發現單項鍛煉效果不佳，組合式健身可以根據不同人群的體質問題進行設計和實踐，能將組合中不同專案的價值、特點，以及機能的有機結合，內在機能之間起到互補和相互促進的作用，使之達到良好的鍛煉效果。初步分析認為：探討出一套甚至更多適合中國當代大學生的組合式健身方法十分必要，對提高我國大學生體質現狀研究具有重要的意義與價值。

關鍵字：組合式健身，大學生體質，鍛煉行為

Abstract

In China in recent years from students' physique health test results look, college students' physical quality decreased obviously. Although the teaching of college sports department for the phenomenon taken many measures, but the exercise and exercise is scientific and exercise freedom, there are still large problem. Summarizing of physical exercise different patterns produce exercise the effect, in the study found that a single exercise the effect not beautiful, combined fitness according to different groups of people can be physical problems in design and practice, can the value of different combination of project, characteristics and the organic combination of the function, a complementary between internal function and promote each other role, to make it meet the good exercise

the effect. Preliminary analyzed that : Explores a set of even more suitable for China's contemporary college students combined fitness method is necessary , to improve college students' physical condition in our country are important significance and value.

Keywords: Combined-type fitness, Undergraduates' physical, Physical exercise behavior

B超測定BMI標準群高中生皮下脂肪與肌肉厚度分佈的特點及變動規律**陳洪淼，宋振鎮，胡國鵬，馮魏，楊志英****華僑大學體育學院，福建泉州 362021****Characters and developmental pattern of the thicknesses of subcutaneous fat layer and muscle layers measured by type-B ultrasound in high school students with normal BMIs****CHEN Hongmiao, SONG Zhenzheng, HU Guopeng,****FENG Wei, YANG Zhiying****Huaqiao University of Physical Education, Fujian, Quanzhou 362021****摘要**

目的：研究BMI標準群高中生的皮下脂肪發育狀況及規律。

方法：本研究以浙江省溫州市某高中1992—1995年之間出生的122名（男57名，女67名）為對象，使用B超測定上臂前部、上臂後部、腹部大腿前部和小腿後部的皮下脂肪及肌肉厚度資料進行分析。

結果：隨著年齡的增大男女腹部皮下脂肪均有明顯下降趨勢，女子肱三頭肌部位有增加趨勢，其他各部位無明顯規律。男生肌肉隨著年齡的增大肱二頭肌、股四頭肌和腓腸肌略見增加趨勢之外，男女其他各部位均未見有規律的明顯增加，腹肌還略見下降。

結論：BMI標準群青少年的皮下脂肪隨年齡變化影響較大的為腹部脂肪的變化。男女腹肌有略降趨勢，加強腹肌練習對於青少年的身體正常發育有著很重要的意義。

關鍵字：B超，皮下脂肪，肌肉厚度，青少年，BMI

Abstract

Object: To reveal the developmental pattern of subcutaneous fat in high school students with normal BMIs.

Method: One hundred and twenty-two students(57 males and 65 females)from a high school in Wenzhou, Zhejiang Province, who were born between 1992 and 1995, were

involved in this study. The thicknesses of subcutaneous fat layer and muscle layers of biceps, triceps, abdomen, lap and posterior crural region were measured by using the Type-B ultrasound.

Result: The thicknesses of subcutaneous fat layer correlated negatively with age in abdomen in both male and female students, but positively in the triceps region in female students. No significant change was observed in other regions. The thicknesses of biceps, humerus quadriceps and gastrocnemius muscles show slight increase along with age in male students. No significant increase was observed in other regions. The thickness of abdomen muscle even tends to decrease in both male and female students.

Conclusion: The thicknesses of abdomen subcutaneous fat layer changes most significantly along with age. The decreasing tendency of the thicknesses of abdomen muscle indicated the necessity to strength the exercises on abdominal muscles in teenagers.

Keywords: Type-B ultrasound, subcutaneous fat, thicknesses of muscle, teenager, BMI

有氧運動對2型糖尿病患者體質指標的影響

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Effects Of Aerobic Exercise On The Indicators Of Physical Quality In Type II Diabetic Patients

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摘要

目的：觀察練功十八法、木蘭拳結合快步走的有氧運動幹預方式對2型糖尿病患者體質指標的影響。

方法：將206例診斷為2型糖尿病的患者按照住址就近分8個健身點，採用集中鍛煉的方式進行有氧運動幹預研究。

結果：運動幹預12個月後，與運動前比較，幹預對象的體重、腰圍、臀圍均顯著降低（ $P<0.05$ ），體質指標均非常顯著地提高（ $P<0.01$ ）。

結論：有氧運動能有效改善2型糖尿病患者的形態，提高身體機能等體質指標水平，有利於血糖控制，提高生活品質。

關鍵字：有氧運動，2型糖尿病，體質監測

Abstract

Objective: To observe the effects of indicators of physical quality in type 2 diabetic patients with aerobic exercises combined with the eighteen step practice, MULAN fist and quick march.

Methods: 206 patients with type 2 diabetic were divided into 8 body building place according to their address, there they were trained by aerobic exercise with concentrated training methods.

Results: After 12 months, the body weight, waist circumference and hip circumference were significantly decreased as compared with those before treatment($P<0.05$), the indicators of physical quality were significantly increased($P<0.01$).

Conclusion: Aerobic exercise can effectively modify body shape and increase the level of indicators of physical quality in type 2 diabetic patients, so it can take control of blood sugar more effectively and improve the quality of life.

Keywords: aerobic exercise, type 2 diabetes, physical monitoring

北京部分高校教職工健康行為與體質健康關係的調查研究

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Investigation and Study on Relation between Health Behavior and Physical Health of Faculty Member from Part of Capital College

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摘要

1. 前言：一直以來，大學教師的健康問題很少有人關注，社會對教師群體的健康狀況重視度不夠。在競爭激烈的社會裏，很多教師除了是學術帶頭人之外，還要承擔眾多教學、科研、學術交流的責任，能者多勞，學校領導們往往對他們予以重用，多佈置任務給他們。繁重的工作讓這些教學骨幹身體疲憊，同時他們更要面對學歷、職稱這些激烈的社會競爭，就這樣壓力越來越大，健康問題就容易被忽視，一些身體疾病就會乘虛而入。

2. 研究對象與方法：研究對象（略）

3. 研究分析與結果：

3.1 形態指標的對比分析：經與全國體質普查結果相對照，按照性別與年齡特徵對比印證了北京教職工的形態指標基本一致。

3.2 機能指標的對比分析：臺階試驗指數隨年齡的變化男性呈現低到高再到低的趨勢。其變化可以劃分為三個階段：在20~35歲年齡段，波動較小；40~45歲年齡段，臺階指數上升較多；在50~55歲年齡段，臺階指數又迅速下降。女性臺階指數的變化較波折。

3.3 素質指標的對比分析：隨著年齡增長，各年齡段握力/體重呈現持續性下降，從下降趨勢看，女性握力/體重的下降幅度略小於男性。

3.4 健康行為對體質健康的影響：眾所周知，良好的運動習慣、科學的鍛煉、規律的飲食和起居屬於健康行為。

3.4.1 鍛煉頻度對體質健康的影響：

心肺耐力作為人群體力活動水平的一個客觀生理指標，與各人群死亡率及心血管疾病死亡率高度相關，是體質健康各組成部分的核心要素。

經過對比分析，3~4次/周的鍛煉頻度對男女各年齡階段的臺階試驗指數均大於1~2次/周的鍛煉頻度，差異均具有統計學意義。健康的生活方式要求人們不但要遵循合理的作息制度不，還要養成體育鍛煉的習慣，才能有效地增進健康，預防疾病，為學習和工作創造良好的條件。

3.4.2 起居方式對體質健康的影響：

本研究將起居方式劃分為四類：早睡早起、早睡晚起、晚睡早起和晚睡晚起。通過對比分析，早睡晚起與晚睡晚起之間不存在顯著性差異，但兩者與早睡早起和晚睡晚起之間存在顯著性差異；早睡早起與晚睡晚起之間存在高度顯著性差異（ $P<0.01$ ）。

充足睡眠、均衡飲食和適當運動是健康生活的三個鼎足。睡眠不僅涉及生理、心理等，也影響人類生活的其他許多方面，例如工作效率，決策，創造性思維和長壽等。

4. 研究結論：

4.1 體育鍛煉可以有效改善心肺功能、增強體格和預防心血管疾病。

4.2 良好的生活方式能夠改善機體和增強體質。

Abstract

1. **Preface:** All the time few people pay more attention to situation of college teacher. And except for leader of academic science some of teacher who were assigned by school leaders have undertaken obligation of education, research and academic exchange. Uphill work have made those elite of teaching so exhausted and at the same time who have to confront furious competition from school record and professional title. Under more and more pressure health could be neglected by them who could be invaded by

some diseases.

2. Subject investigated and research approach: Subject investigated(omit)

3. Reaseach and analyse:

3.1 Contrasive analysis on index of body shape: Body shape of faculty member from part of capital college was same in comparison with nationwide survey for physical health in accordance with age and gender.

3.2 Contrasive analysis on index of physical function: Index of Harvard step experiment in male show fall after rising with age. The change has three stages. It is weak rolling during first stage between 25 and 35 ages; Second stage has a uptrend between 40 and 45 ages; Last stage shows rapidly descend between 50 and 55 ages. However index of Harvard step experiment in female shows complex trend.

3.3 Contrasive analysis on index of physical capacities: With the development of age handgrip and body mass exponent of every age bracket has been downgrade. In the light of downtrend the fall from female is less than from male.

3.4 Influence of health behavior on physical health: It is well known that good sports habit, scientific exercise, regular diet and daily life belong to health behavior.

3.4.1 Influence of the exercise frequency on physical health:

One of the objective physical signs, Cardiorespiratory endurance, is a key element of physical health which have a high correlation with mortality rate of cardiovascular disease.

By relative analysis frequency of 3-4 times a week has more effect than frequency of 1-2 times a week in index of Harvard step experiment of all ages. For achieving health daily life people have not only keep up with rational system but cultivate a habit of exercise, which could promptly improve health and prevent diseases ,and then produce good condition for study and work.

3.4.2 Influence of daily life on physical health

Life style is divided into four types in the research. First type is to keep early hours, second type is to sleep early and wake up late, third type is to sleep late and wake

up early, last type is to sleep late and wake up late. By relative analysis there is no difference between type 2 and type 4, however there exist a significant difference between 1 and type 4.

It is indispensable for daily life to sound sleep, well-balanced diet and profitable sports those affect other aspect of human life such work efficiency, strategic decision, creative thinking and long-life.

4. Research conclusion:

4.1 Sport exercise could effectively improve cardio-pulmonary function, strengthen constitution and guard against angiocardopathy.

4.2 Good daily life could improve body.

12周步行運動對社區2型糖尿病患者血糖、血脂代謝的影響

孫吉¹，袁博²，劉軍³，陳處暘⁴

Influence of 12-week walking exercise on blood glucose and lipid metabolism in patients with type 2 diabetes mellitus in a community setting

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摘要

目的：糖尿病（diabetes mellitus）的發病率逐年上升，全球糖尿病患者已接近2億人，而我國患者人群高居世界第二，已近4000萬人，2型糖尿病約占整個糖尿病發病率的95%，糖尿病已成為重要的公共衛生問題。2型糖尿病是一種與生活方式密切相關的代謝性疾病，已成為繼腫瘤、心血管疾病之後導致死亡的第三大病因。國際糖尿病聯盟（IDF）提出糖尿病現代治療的5個要點，分別為：飲食控制、運動療法、血糖監測、藥物治療和糖尿病教育。目前國外在社區開展糖尿病運動的研究較多，國內在這方面的研究甚少，因此我們擬在上海市虹口區進行針對2型糖尿病患者的步行運動研究，探討步行運動對2型糖尿病患者的影響。

方法：在原有藥物治療、飲食控制不變的情況下，選取86例2型糖尿病（NIDDM）患者，然後實施步行運動12周，觀察步行運動幹預前後身體形態、生理、生化指標的變化。

結果：運動前後患者各項指標存在明顯差異：運動後體重、體脂率、體質指數（BMI）、血壓（BP）、空腹血糖（FPG）、糖化血紅蛋白（HbA_{1c}）、血清總膽固醇（TC）、甘油三酯（TG）、低密度脂蛋白膽固醇（LDL-C）分別較該組運動前下降，高密度脂蛋白膽固醇（HDL-C）較運動前上升（ $p < 0.05$ ）。

結論：運動療法較藥物治療，具有經濟、便捷、副作用小的特點，步行運動幹預作為2型糖尿病患者的輔助治療手段可以獲得比較滿意的療效。

關鍵詞：社區，糖尿病，血糖，血脂，步行

Abstract

Objective: The incidence of diabetes mellitus (DM) is increasing yearly. The number of diabetic patients is approaching two hundred million worldwide. China ranks the second in the number of diabetic patients in the world, totaling about 40 million, of which 95% are type 2 DM, or non insulin dependent diabetes mellitus (NIDDM). DM has become an important public health problem. NIDDM is a metabolic disease strongly linked to lifestyle, and has become the third leading cause of death next to tumors and cardiovascular diseases. The International Diabetes Federation (IDF) proposes five strategies for modern treatment of DM: dietary control, exercise therapy, blood glucose monitoring, medical treatment and diabetes education. There has been much research on exercise therapy of DM in a community setting in other countries, but there is little research in this respect in China. We conducted a walking exercise study in NIDDM patients in Shanghai Hongkou District to explore the influence of walking exercise on NIDDM.

Methods: With the original medical treatment and dietary control unchanged, we chose 86 NIDDM patients and put them on a 12-week walking exercise program to observe changes in physique and physiologic and biochemical parameters before and after the walking exercise intervention.

Results: There were significant differences in various parameters before and after the walking exercise intervention. Body weight, the percentage of body fat, BMI, BP, FPG, HbA1c, TC, TG and LDL-C decreased significantly, and HDL-C increased significantly as compared with those before intervention ($p < 0.05$).

Conclusion: Exercise therapy is more economical and convenient with fewer adverse effects as compared with medical treatment. Walking exercise intervention as a helper therapy can provide satisfactory therapeutic effects in NIDDM patients.

Keywords: community, diabetes mellitus, blood glucose, blood lipid, walking exercise

12周步行干預對社區中老年高血壓患者降壓效果的研究

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Objective of 12-week aerobic walking on hypertension in middle- and old-age individuals in a community setting

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摘要

1. 研究目的：擬探討步行有氧運動對原發性高血壓病的降壓效果及其作用機制，為科學制定高血壓運動處方提供依據。

2. 研究對象與方法：

2.1 研究對象：經嚴格篩選，選取上海市虹口區各街道原發性 I、II、III 級及臨界高血壓患者共 104 人。其中男性 27 人，女性 77 人，平均年齡 56.77±5.40 歲。均自願參加步行干預試驗，並簽署自願參加同意書。

2.2 研究方法：

2.2.1 研究對象篩選方法：通過健康問卷調查、健康檢查、運動能力測試排除非原發性高血壓和不宜參與步行干預的受試者。

2.2.2 健康檢查：身體形態指標（身高、體重、腰圍、身體脂肪百分率）；生理指標的測定（安靜心電圖、安靜血壓、運動負荷後即刻血壓和即刻心電圖）；血液指標（禁食 12 小時後清晨空腹抽上臂靜脈血 3ml，測定（血管緊張素 II、醛固酮和血紅蛋白）。

2.2.3 運動負荷能力測試:採用自製臺階凳,進行兩次運動負荷測試,第一次15次/分鐘,第二次30次/分鐘上下臺階。均持續2分鐘。

2.2.4 運動處方的制定:每位受試者發一個計步器和一份記錄表,經兩周預實驗收集日常1小時和1天步數,並求出均值。以平均日常1小時活動量為基礎增加5%作為幹預期間1小時活動量,以平均日常1天活動量為基礎增加10%作為幹預期間1天活動量。

運動強度按照運動強度按照:1小時步行後即刻心率=(第二次臺階負荷後即刻心率-安靜心率) \times 60%+安靜心率。要求受試者每天持續步行1小時,其中有效步行時間不低於45分鐘,每週步行5次。

2.2.5 資料處理方法:採用Spss17.0統計軟體對數據料進行處理,主要採用配對T檢驗。

3. 研究結果:

3.1 經12周步行幹預,高血壓受試者安靜血壓、運動負荷後即刻血壓及脈壓差明顯下降($P<0.01$)。正常血壓和臨界高血壓的人數均大幅升高,高血壓I、II、III級和單純收縮期高血壓人數均大幅下降;安靜心率、運動負荷1和運動負荷2後的即刻心率均有下降,其中運動負荷2後的心率下降顯著。

3.2 體重、腰圍、BMI、體脂率及腰圍身高比均下降,其中體重、BMI和體脂率顯著性下降($P<0.05$),並且受試者肥胖的人數減少,趨向正常體重的人數增加。

3.3 經12周步行幹預,醛固酮低於步行幹預前,但無顯著性差異($P>0.05$);採用非參數檢驗發現,血管緊張素II下降顯著。

3.4 經12周步行鍛煉,血紅蛋白含量顯著下降($P<0.05$)。

4. 研究結論:

4.1 採用60%儲備心率的運動強度持續步行1小時,並結合計步器步行12周的運動處方可行和有效。

4.2 12周步行幹預可有效改善血壓、身體成分和增強機體運動能力。

4.3 12周步行幹預能夠改善血管緊張度、機體體液代謝和血液粘度。

Abstract

1. Objective: To explore the antihypertensive effect and mechanism of aerobic walking on essential hypertension for the sake of providing clues for formulating scientific exercise prescriptions for hypertensive individuals.

2. Subjects and methods :

2.1 Subjects: A total of 104 individuals who suffered from grade I, II and III essential hypertension and borderline hypertension were strictly screened from neighborhoods of Shanghai Hongkou District, including 27 men and 77 women with a mean age of 56.77 ± 5.40 years. They were voluntary to participate in the walking intervention and personally signed informed consent.

2.2 Methods:

2.2.1 Screening of the subjects: Individuals with non essential hypertension or those who were unsuitable to participate in the walking intervention were excluded by health questionnaire, health examination and motor ability test.

2.2.2 Health examination(height, weight, abdominal circumference and percentage of body fat); physiologic indexes(resting ECG, resting BP, BP and ECG immediately after exercise loading); blood indexes(angiotensin II, aldosterone and hemoglobin by drawing 3ml venous blood from the upper arm in the early morning 12 h after fasting).

2.2.3 Exercise load ability test: Using a step stool, two episodes of exercise load test were performed: 15 times/min at the first episode, and 30 times/min at the second episode, both lasting for 2 min.

2.2.4 Formulation of the exercise prescription: Each subject was given a pedometer and a recording form. After a 2-week pre-test, the number of 1-h steps daily and that of 1-day steps were calculated to obtain a mean value. Using the mean 1-h exercise daily as the baseline, 5% was added to that baseline as the 1-h exercise during the intervention period; using the mean 1-day steps as the baseline, 10% was added to that baseline as the 1-day exercise during the intervention period.

Exercise intensity was determined according to the formula: heart rate (HR) 1-h after walking = $(HR_{\text{prompt}} - HR_{\text{resting after the second episode of step exercise}}) \times 60\% + HR_{\text{resting}}$. The subjects were required to walk continuously for one hour

daily for five times per week. The effective time at each walking exercise was at least 45 minutes.

2.2.5 Data treatment: Data were treated using Spss17.0 statistical software, mainly paired t test.

3. Results:

3.1 After 12-week walking intervention, resting BP, BP and pulse pressure immediately after exercise loading decreased significantly in the hypertensive subjects as compared with those before intervention ($p < 0.01$). The number of normotensive and borderline hypertensive individuals increased substantially, while the number of individual with grade I, II and III essential hypertension and those with simple systolic hypertension decreased substantially. HR_{resting} and HR_{prompt} after the first and second episode of exercise loading decreased to some extent, with the decrease in HR_{prompt} after the second episode of exercise loading more pronounced.

3.2 Weight, abdominal circumference, BMI, percentage of body fat and abdominal circumference/height ratio were all decreased, of which weight, BMI and percentage of body fat were decreased significantly as compared with those before intervention ($P < 0.05$). In addition, the number of obese individuals decreased, and the number of individuals closer to the normal weight increased.

3.3 After 12-week walking intervention, aldosterone was lower than that before intervention, but the difference was not statistically significant ($P > 0.05$). Non-parametric test showed that angiotensin II decreased significantly.

3.4 After 12-week walking intervention, hemoglobin decreased significantly ($P < 0.05$).

4. Conclusions:

4.1 The exercise prescription of continuous walking for one hour at an exercise intensity of 60% HR reserve for 12 weeks with the help of a pedometer is feasible and effective.

4.2 12-week walking intervention can improve BP and physique, and enhance the motor ability of the body.

4.3 12-week walking intervention can improve vascular intensity, humoral metabolism and blood viscosity.

長期步行鍛煉對原發性高血壓患者血壓脂代謝及相關激素的影響

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The impact of long—term walking exercise on blood pressure and lipid metabolism and relative hormone in essential hypertension

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摘要

研究目的：探討長期步行鍛煉對原發性高血壓病患者的降壓作用，觀察高血壓病患者運動療程前後脂代謝及相關激素的改善程度，以進一步探討長期步行鍛煉對原發性高血壓病的康復作用。

研究方法：研究對象為8名原發性高血壓病患者，年齡平均 60 ± 5.35 歲。在運動干預期間不改變受試者的飲食、運動及生活習慣。運動方式為步行，在社區以小組的形式鍛煉，每週5次，每次60分鐘，持續24個月。運動強度為最大心率的60%，每人發放計步器，以平均日常1小時活動量為基礎增加5%作為干預期間1小時的活動量；以平均日常1天活動量為基礎增加10%作為干預期間1天活動量。採用自身前後對照的方法，在運動前、運動24個月後分別測試：

1. 身體形態指標：身高、體重、腰圍、臀圍、身體脂肪百分率及派生指標體重指數、腰臀比；
2. 生理指標：安靜血壓、脈搏、心電圖；
3. 生化指標：血常規、尿常規、血脂（總膽固醇、甘油三酯、高密度脂蛋白、低密度脂蛋白）、腎素、血管緊張素II、醛固酮。

研究結果：

1. 24個月步行鍛煉後，8名受試者的安靜收縮壓差異無統計學意義（ $p > 0.05$ ），舒張壓平均下降 5.19mmHg ，舒張壓下降在正常範圍。
2. 體重、腰圍/身高比、體脂率與BMI值呈下降趨勢（ $p > 0.05$ ）；腰圍平均下

降了4.6cm。

3. 總膽固醇、甘油三酯以及低密度脂蛋白有降低的趨勢，但差異沒有統計學意義 ($p>0.05$)。高密度脂蛋白、高密度脂蛋白/總膽固醇比值、血粘度均保持在正常範圍內。腎素降低，差異具有統計學意義， ($p<0.05$)，並且正常受試者人數由2人升至6人；血管緊張素II升高 ($p<0.05$)；醛固酮明顯下降，具有統計學差異 ($p<0.05$)。

研究結論與建議：

1. 採用60%的最大心率結合計步器監控原發性高血壓患者步行鍛煉可以明顯改善高血壓患者的血壓。

2. 步行鍛煉可以改善高血壓患者的體重指數及脂肪百分比。

3. 步行24個月後原發性高血壓患者脂代謝有改善趨勢；腎素、醛固酮下降，血管緊張素II升高。由此提示，腎素-血管緊張素-醛固酮系統活性沒有降低，其原因尚需進一步研究。建議以社區為群體鍛煉的基礎，充分利用社區資源，有利於高血壓病人運動療法的管理與監督。

Abstract

Objective: To study the antihypertensive effect of long-term walking exercise on the changes of blood pressure, lipid metabolism and Renin-Angiotensin-Aldosterone-System(RAAS) of the patients with essential hypertension. Aiming to further discuss the rehabilitation role played by long-term aerobic walking exercise on the patients.

Methods: 8 patients of essential hypertension were observed. A 2 years' individual pedometer training plan was set up (60minutes per time, 5 times per week) according to a health examination, questionnaire surveys and step experiment for each patient. Exercise intensity is 60% of the maximum heart rate. Use average 1 hour activity increased by 5% or average 1 day activity increased by 10% as activity level of 1 hour or 1 day during intervention. The blood pressure, blood lipid and relative hormone were measured and analyzed before and after the intervention.

Results: The systolic and diastolic blood pressure averagely declined about 12.89mmHg and 10.86mmHg respectively after 24 months' walking exercise ($p>0.05$). The body

weight, WHtR, BMI, fat percentage, TC, TG and LDL intended to decrease ($p>0.05$). HDL, HDL/TC and blood viscosity were all in normal range after the intervention. Renin and Aldosterone decreased, and the difference was statistically significant ($p<0.05$). Angiotensin II significantly increased ($p<0.05$).

Conclusions: 24 months' walking exercise which intensity is 60% of the maximum heart rate could be effective in treating essential hypertension. Blood Pressure, Blood Lipid was showing a tendency to be improved. But further investigation about the reason why the Renin-Angiotensin-Aldosterone-System activity didn't reduce is required.

四周有氧運動對肥胖青少年動脈粥樣硬化致病相關因數的影響

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Effect of Weight Reduction on the Risk Factors of Atherosclerosis in Obese Children and Adolescents through 4-Week Aerobic Exercise and Diet

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摘要

研究目的：肥胖症是動脈粥樣硬化發生的獨立危險因素，幹預兒童青少年肥胖是預防其成年後發生動脈粥樣硬化的重要手段，運動減肥是治療肥胖症的常用有效方法。本研究通過對肥胖青少年進行為期四周的有氧運動減肥，觀察肥胖兒童青少年運動減肥後體脂率、胰島素、血脂代謝、血管慢性炎症等動脈粥樣硬化致病相關因數的變化，為運動減肥改善肥胖兒童青少年代謝紊亂、抑制血管炎性病變、預防動脈粥樣硬化發生提供實驗依據。

研究方法：以參加2011年上海巔峰運動減肥夏令營的30名肥胖兒童青少年（男15人、女15人）為研究對象，年齡為9-16歲，進行四周中小強度有氧運動為主結合適當飲食控制的減肥運動訓練。運動前一天進行運動負荷試驗及體格檢查，以制定運動減肥方案並確保運動減肥安全有效。飲食控制以保證肥胖兒童青少年每日總能量生理需要量為原則。分別於運動減肥的前一天和最後一天測量受試對象身高、體重、體脂率等身體形態指標，採集清晨空腹狀態肘靜脈血，提取

血清，檢測胰島素、脂醯輔酶A膽固醇醯基轉移酶-2、脂蛋白酯酶、血管內皮細胞生長因數、腫瘤壞死因數- α 等血液指標。採用SPSS17.0軟體進行統計與分析，運動減肥前後各項指標變化的比較採用配對樣本t檢驗。

研究結果：四周有氧運動後，肥胖兒童青少年體脂率（Fat%）、血清胰島素水平（FINS）下降均十分顯著（ $p < 0.01$ ），甘油三酯（TG）、總膽固醇（TC）、高密度脂蛋白膽固醇（HDL-C）、低密度脂蛋白膽固醇（LDL-C）明顯降低（ $p < 0.01$ ），HDL-C/LDL-C比值顯著升高（ $p < 0.01$ ），脂蛋白酯酶（LPL）顯著升高（ $p < 0.01$ ），脂醯輔酶A膽固醇醯基轉移酶2（ACAT2）、血管內皮生長因數（VEGF）、腫瘤壞死因數- α （TNF- α ）水平顯著性下降（ $p < 0.01$ ）。肥胖青少年紅細胞計數（RBC）、血紅蛋白（HGB）、紅細胞壓積（HCT）在四周運動前、後均處於正常參考範圍內，反映受試者不存在血液濃縮或稀釋狀態而影響各血液指標檢測結果的準確性。

研究結論：四周有氧運動可以明顯降低肥胖兒童青少年的肥胖程度、胰島素水平，明顯改善血脂代謝，在一定程度上抑制血管慢性炎症進程，對預防肥胖兒童青少年成年後發生動脈粥樣硬化具有積極的作用。

關鍵字：肥胖兒童青少年，有氧運動，脂代謝紊亂，胰島素抵抗，血管慢性炎症，動脈粥樣硬化

Abstract

Objective: Obesity is one of the risk factors of atherosclerosis and the action should be take to improve somatometric measurements and prevent atherosclerosis in obese children and adolescents. This study is to observe the effect of weight reduction on the risk factors of atherosclerosis in obese children and adolescents through 4-week aerobic exercise and diet.

Methods: 30 obese children and adolescents (15 males, 15 females; aged 9 to 16 years) were recruited from weight reduction camps during 2011 in Shanghai. Cardiovascular disorders in the subjects were excluded and the needs of daily calorie intake of the subjects' were met. These obese children and adolescents' height, mass, fat percentage, fasting blood insulin, ACAT2, LPL, VEGF and TNF- α were measured both at the beginning and ending of the weight reduction program, which lasted for 4 weeks.

Results: After 4-week weight reduction exercise, the obese children and adolescents' fat percentage and serum insulin were reduced significantly ($p < 0.01$). The level of lipoprotein lipase and HDL-C/LDL-C increased while the level of TG, TC, HDL-C, LDL-C, ACAT2, VEGF and TNF- α reduced significantly ($p < 0.01$).

Conclusions: 4-week weight reduction exercise with proper diet control effectively improves somatometric measurements, lipid metabolism and insulin resistance of obese children and adolescents, to a certain extent, as well as chronic inflammation of vascular, in order to prevent atherosclerosis and metabolic syndrome after growing up.

Keywords: Obese Children and Adolescents, Aerobic Exercise, Lipid Metabolic Disorder, Insulin Resistance, Chronic Inflammation of Vascular, Atherosclerosis

中小強度有氧運動對肥胖症患者血脂、血胰島素和脂肪肝的影響

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Aerobic Exercise Improves the Blood Lipid, Blood Insulin and Fatty Liver in Obese Patients

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摘要

研究目的：肥胖症患者由於高脂飲食習慣加之缺乏體力活動易導致血脂代謝紊亂和胰島素抵抗現象，與此同時，肥胖症患者中非酒精性脂肪肝的發病率呈逐年上升趨勢，嚴重危害人類健康。運動能顯著降低肥胖發生率，改善脂肪肝程度，但究竟運動是如何改善脂肪肝，其改善脂肪肝的途徑是什麼，目前卻鮮有報導。本研究通過對肥胖症患者進行為期4周的中小強度有氧運動減肥，觀察運動減肥後肥胖症患者血脂、血胰島素和脂肪肝程度的變化，探討運動改善脂肪肝的途徑，分析脂肪肝與相關影響因素的關係。

研究方法：以2010~2011年參加上海巔峰全封閉式運動減肥訓練的體脂率> 30%的肥胖症患者44名（男女各22名）為研究對象。測定其身體形態學指標、心率、血壓、安靜狀態心電圖、空腹血糖（FBG）、空腹胰島素（FIN）、空腹血脂四項、穀草轉氨酶(AST)、穀丙轉氨酶（ALT）、酮體並進行肝臟B超檢查。根據受試者的健康狀況和運動負荷試驗確定運動強度，制定個性化的運動處方。運

動減肥過程中以心率为運動強度監控指標，目標心率=安靜心率+心率儲備 \times 20%~40%。運動項目以長時間、中小強度的有氧運動為主，如游泳、快走、慢跑等。營養師根據受試者的基礎代謝率制定合理的飲食方案，保證熱量和必須營養物質的供給。4周運動減肥後，比較上述指標的變化。

研究結果：4周運動減肥後，肥胖症患者

1. 體重、體脂率、腰圍、臀圍、大腿圍、上臂部皮褶、肩胛部皮褶均較減肥前顯著下降 ($P<0.01$) ；

2. 空腹血脂、空腹胰島素明顯下降 ($P<0.05$) ；

3. 肝功能改善，脂肪肝程度明顯好轉；

4. 酮體含量變化較減肥前無統計學意義。

結論：

1. 中小強度有氧運動結合飲食控制對肥胖症患者血脂、血胰島素具有明顯的改善作用，提示中小強度有氧運動可改善肥胖症患者的脂代謝紊亂、胰島素抵抗，對預防代謝綜合症有積極作用；

2. 隨著肥胖程度的減輕，脂肪肝得到改善、甚至痊癒，說明有氧運動結合飲食控制能有效改善肝功能，降低脂肪肝程度。

3. 運動減肥對脂肪肝的改善作用，並不是提高了肝臟氧化分解脂肪的能力，而是由於運動使脂肪動員加強，減少了脂庫脂肪量，從而使進入肝細胞的脂肪減少，脂肪肝程度緩解。

4. 肥胖合併脂肪肝患者，脂肪肝程度與肥胖程度、肥胖持續時間、TG含量、胰島素水平、體脂率密切相關。

關鍵字：肥胖症患者，中小強度有氧運動，血脂，血胰島素，脂肪肝

Abstract

Purpose: High-fat diet and the lack of physical activity are easily lead to dyslipidemia and insulin resistance in obese patients and the incidence of Non-Alcoholic Fatty Liver Disease increases year by year. Exercise can significantly reduce the incidence of obesity and improve the degree of hepatic adipose infiltration. But we do not know how exercise reduce the degree of fatty liver and what is the mechanism. In this study, obese patients

with a 4-week aerobic exercise to lose weight. After 4-week weight reduction exercise, we observe the change of blood Lipid, blood Insulin and the degree of fatty liver, explore ways to improve the fatty liver and analysis the relationship between Non-Alcoholic Fatty Liver Disease and relevant factors.

Methods: Forty-four obese patients(22 males,22 females; body fat percentage>30%) were recruited from weight reduction camps during 2010~2011 in Shanghai. The subjects'body shape, resting HR, blood pressure, fasting glucose, fasting blood insulin, blood lipid(including TG, TC, HDL-C and LDL-C), hepatic function indicators(including AST,ALT), ketone bodies, exercise capacity, and health condition, especially resting ECG and exercise ECG test were measured or examined. The target HR for each subject was determined by following formula: resting HR+HR reserve[(maximal HR-resting HR)×(20%~40%)].Daily calorie intake was calculated according to age, body weight and basal metabolism. The measurements and examinations were carried out before and after 4-week experiment.

Results:

1. The obese patients' weight, body fat percentage, waistline , hip and thigh circumferences, arm skinfold, scapular skinfold, blood lipid and blood insulin decreased significantly after 4-week.
2. Liver function improved and the degree of hepatic adipose infiltration reduced markedly, but ketone bodies did not change significantly.

Conclusions:

1. Moderate to low intensity exercise improves lipid metabolism and insulin resistance in obese patients, which has a positive effect on prevention of metabolic metabolic syndrome.
2. Aerobic exercise combined with diet control can markedly improve liver function and reduce the degree of fatty liver.
3. The effect of exercise to improve the degree of fatty liver does not increase fat oxidation and decomposition ability, but decreasing the amount of fat in liver.
4. The degree of fatty liver has a closely relationship with the degree of obesity, duration

of obesity, TG, insulin and body fat percentage.

Keywords: obese patients, exercise, weight reduction, blood lipid, blood insulin, hepatic adipose infiltration

散打和套路運動員骨密度特徵的研究

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The Characteristic of Bone Mineral Density of Sanda and Routine Athletes

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摘要

目的：探討散打和套路運動員骨密度的特徵。

方法：以杭州師範大學散打運動員40人，套路運動員43人和普通大學生47人為測試對象，採用韓國 OsteoSys 生產的 EXA-3000 數位元 DR X 線骨密度測定器測定散打組、套路組和普通組大學生的骨密度各項指標，並分析討論。

結果：

1. 男女大學生之間骨密度存在顯著差異；
2. 女生散打組和套路組骨密度均高於普通組，差異具有統計學意義；男生除散打組左前臂骨骨密度好於普通組外，其餘各部位無顯著差異；
3. 散打運動對男生左前臂骨的骨密度影響顯著，但除此之外，散打和套路運動在對骨密度的影響方面並無統計學上的差異；
4. 右側肢體的骨密度高於左側肢體，差異具有統計學意義。

結論：女生散打和套路運動員具有高骨密度的特點，提示長期有規律地進行武術鍛煉有利於提高女性的骨骼品質；男生散打運動員呈現左前臂骨骨密度增高的特點，提示散打訓練有助於提高男生非有利手的骨密度。

關鍵字：散打，套路，運動，骨密度，T值

Abstract

Objective: To investigate the characteristic of bone mineral density of Sanda and Routine athletes. **Methods:** Sanda athletes 40, routine athletes 43, college students 47, from a university, as research objects, using South Korea OsteoSys production EXA-3000 digital DR X-ray absorptiometry measured the bone mineral density of the Sanda group, the routine group and the normal group, and analysis and discussion.

Results:

1. There were significant differences in the bone mineral density between male and female students;
2. Girls Sanda group and routine group were higher than normal bone density group, the difference was statistically significant; boys left forearm bone density in addition to Sanda group better than ordinary group, the remaining part was no significant difference;
3. Sanda boys left forearm bone mineral density significantly affected, but otherwise, Sanda and routine exercise on bone mineral density there was no statistical difference;
4. Right limb bone mineral density is higher than the left limb, the difference was statistically significant.

Conclusion: Sanda and routine female athletes have the characteristics of high bone mineral density, suggesting that regularly long-term Wushu training will help improve the quality of women's bones; Sanda male athletes showing the characteristics of the high left forearm bone mineral density, suggesting that Sanda training helps to improve bone mineral density in male non-favorable hand.

Keywords: Sanda, Routine, Athletes, Bone Mineral Density, T-score

不同海拔高度環境對學生心率變異性參數的影響

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Infection of Different Altitudes on HRV

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摘要

本課題在研究不同海拔高度環境對大學生身體機能的研究中發現學生心功能受海拔高度的影響較大，並且有關文獻資料報導不同海拔高度環境對大學生心功能變化的原因中，有神經因素的影響。心率變異性測試是通過時域和頻域分析法，對受試者心電信號進行分析，從而瞭解受試者自主神經系統的調節功能，結合貴州處於高原地域，具有高原、亞高原和平原各種梯度海拔地域，而各種海拔高度對學生心率變異性的影響尚未見到國內外相關報導，因此本研究的目的是通過對世居在高原、亞高原和平原的高校90名非體育專業農村男生進行心率變異性測試，對比分析不同海拔高度自主神經系統（ANS）調節功能的特點，為進一步闡明不同海拔高度學生機體自主神經系統發生病理心理學改變提供試驗依據。研究方法：採用時域分析法、頻域分析法、數理統計法和邏輯分析法。研究結果：發現機體的交感神經調節功能隨著海拔高度的增高呈現出先增強再降低的趨勢；機體的副交感神經調節功能隨著海拔高度的增高呈現出先降低再增高的趨勢；機體自主神經的總體調節功能呈現出隨著海拔高度增加而下降的趨勢。

關鍵字：高原，亞高原，平原，體質，心率變異性

Abstract

During the study on how different altitudes affect college students' physical function, the author found heart function of students affect greatly, and some related document literature also report that one of the reason for the change of heart function is neural factor. Heart rate variability test analyzes ECG of subjects by time domain and frequency domain analysis, so as to know regulating function of autonomic nervous system of subjects.

We have never seen any relevant reports on the study of different altitudes influence the students' physical fitness at home and abroad. Guizhou province has good qualifications to carry out this study. It has different altitude of the plateau region, including plateau, sub-plateau, and plains, so this study aims to make comparative analysis on the characteristics of the regulation function of ANS on different altitudes, by running heart rate variability test on 90 non-PE major students who all come from rural area of the plateau, the sub-plateau, and plains. The methods of this research are time domain, Mathematical Statistics Method, spectral analysis and logical analysis. The results found that the regulation of sympathetic nerve function showing a trend of first increasing and then decreasing as the altitude increases; The parasympathetic nerve regulation function declined firstly and then increased; as the altitude increased The autonomic overall adjustment function appears as the altitude increases with decreasing trend.

Keywords: plateau, sub-plateau, plains, physical fitness, heart rate variability

現代辦公室健康操健身效果的實驗研究

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Experimental Research on Body-building Effects of Health Gymnastics Exercises in Modern Offices

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摘要

採用實驗法和統計分析法等，對現代辦公室健康操的運動強度進行實驗，對參加六個月以上現代辦公室健康操鍛煉的辦公室工作人員持續前後的體質（機能和素質），頸、肩和腰等部位的不適症狀以及心理（疲勞、激動和平靜）的變化進行測試，並與第八套廣播體操進行對比，檢驗該套操的科學性及實際效果。結果表明：現代辦公室健康操的最高心率值在最大心率的80%以內，運動強度屬於中等偏下；最高心率和平均心率均低於第八套廣播體操。經過六個月的鍛煉，受試者在身體機能（安靜脈搏、肺活量、收縮壓和舒張壓）和身體素質（除兩臂背側內外旋數據外，安靜脈搏、肺活量、收縮壓和舒張壓、坐位體前屈、選擇反應時、閉眼單腳站立、髖關節內外旋、勾繃腳尖）方面前測和後測之間均呈顯著性差異；除脈搏、血壓外，其餘的變化幅度均好於第八套廣播體操。受試者的頸、肩和腰等部位的不適症狀有了一定的好轉，並且變化幅度好於第八套廣播體操。受試者在疲勞、激動和平靜方面前測和後測之間均呈顯著性差異，除疲勞外，激動和平靜變化的幅度均好於第八套廣播體操。

關鍵字：健康操，實驗，體質，不適症狀，心理

Abstract:

Methods such as experimentation and statistical analysis are adopted in this thesis. By doing experiments on exercise intensity of health gymnastics exercises in modern offices and running a test on the staff who have continuously done it for more than six months, this thesis focuses on the changes of their physique (function and quality), troublesome symptoms of such body parts as neck, shoulder and waist as well as mentality (fatigue, sensation and equilibrium) before and after doing health gymnastics exercises and then compares with the 8th set of radio gymnastic exercises to examine the scientificity and actual effects of health gymnastics exercises.

Results: The heart rate of health gymnastics exercises in modern offices is within 80% of the maximum heart rate and the exercise intensity of health gymnastics exercises is below the moderate level. The maximum and average heart rates are both below that of the 8th set of radio gymnastic exercises. Having done the health gymnastics exercises for six months, those subjects have shown outstanding differences of pretest and aftertest in such aspects as body function (static pulse, vital capacity, systolic pressure and diastolic pressure) and body quality (except the internal and external turning data of dorsal sides of arms, static pulse, vital capacity, systolic pressure and diastolic pressure, sit-and-reach, choice reaction time, standing on one foot with eyes closed, hip joint internal and external turning, toe hooking). With the exception of pulse and blood pressure, the amplitude of variation of other aspects is better than that of the 8th set of radio gymnastic exercises.

After doing health gymnastics exercises, those subjects feel better and the troublesome symptoms of their body parts as neck, shoulder and waist are not as bad as they were. Furthermore, the amplitude of variation of health gymnastics exercises is better than that of the 8th set of radio gymnastic exercises. Those subjects have displayed distinct differences of pretest and aftertest in such aspects as fatigue, sensation and equilibrium. In addition, except fatigue, the amplitude of variations of sensation and equilibrium are better that of the 8th set of radio gymnastic exercises.

Keywords: health gymnastics exercises, experiment, physique, troublesome symptoms, mentality

體育鍛煉對20~59歲成年人慢性病發病風險的影響研究

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Research on physical exercise effect chronic disease risk in 20~59 years old adults

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摘要

研究目的：通過比較20-59成年人群不同鍛煉頻率下慢性病的發病風險，探索體育鍛煉對降低慢性病發病風險的作用，為促進大眾科學健身、改善國民體質提供理論依據和科學指導。

研究方法：通過問卷調查受試對象的鍛煉頻率，並對每位受試者分別進行體質測試、體成分測試、骨密度測試、動脈硬化發病風險測試，比較不同年齡組不同鍛煉頻率下的慢病發病風險檢出率。

研究結果：20-39歲成年人中，與有鍛煉習慣的人相比，無鍛煉習慣的人群體質優秀率較低、肥胖率較高、動脈硬化風險較高；40-59歲成年人中，其中無鍛煉習慣的人群，體質優秀率明顯較低、體質不合格率較高、肥胖率較高、骨質疏鬆發病風險明顯較高、動脈硬化風險明顯較高。各年齡段隨著運動頻率的增加只有肥胖率略低、血管彈性略好。

研究結論：有規律的鍛煉對改善體質、降低肥胖率、改善血管彈性有著比較顯著的效果；鍛煉頻率越大，對肥胖和血管彈性的改善作用越明顯；規律性的鍛煉對改善骨密度的積極作用在40-59歲成年人中表現較明顯。

關鍵字：成年人；體育鍛煉；慢性病

Abstract

Objective: By comparing the risk of chronic diseases in 20-59 adult of different exercise frequencies to explore the role of physical activity in reducing chronic disease risk, in order to provide a theoretical basis and scientific guidance to promote the public exercise scientifically and improve the national physique and health.

Methods: Through the questionnaire survey to find exercise frequency of the subjects, and every subject should do fitness test, body composition tests, bone density test, atherosclerosis risk test, and then compare the detection rate of chronic disease risk in different age groups and different exercise frequency.

Results: In 20-39-year-old adults, compared with someone who has exercise habit ,people with no physical exercise habits have lower physical excellence rate , higher obesity rates, higher risk of atherosclerosis; adults aged 40-59, people with no physical exercise habits have significantly lower physical excellence rate, higher physical failure rate, higher obesity rate, significantly higher risk of osteoporosis, significantly higher risk of atherosclerosis. For all ages, with the increases of exercise frequency ,only obesity rate slightly lower, vessel elasticity slightly better.

Conclusion: Regular exercise has a significant effect to improve physical fitness, reduce obesity, improve vessel elasticity; the more frequency of exercise, the more obvious improvements of obesity and vessel elasticity; Regular exercise to improve the bone mineral density performance more obviously in the 40-59 age group.

Keywords: adult, physical exercise, Chronic diseases

Fitness Level of School National Basketball Players

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Abstract

The present study investigated to compare fitness level of school national level basketball players of junior and sub-junior categories. The Fitness level of each subject of junior basketball players (N=50) and sub-junior basketball players (N=50) were determined. A total 100 basketball players underwent test for Fitness traits - Body weight, Speed of movement, Body mass index, Leg power, Shoulder strength, Hip flexibility, Aerobic capacity, Anaerobic capacity, Lean body mass, Fat weight and Fat Percentage and General motor ability measurements. The results of this study demonstrate that some Fitness trait significantly differ ($p < 0.05$) between the junior and sub-junior Basketball players as: general motor ability, body weight, speed of movement, resting respiratory rate, forced expiratory volume, leg power, Shoulder strength, aerobic capacity, anaerobic capacity, lean body mass and fat percentage, but no significant difference was found in body mass index, hip flexibility and fat weight. Conclusively, the higher Fitness level reached by Junior basketball players compared to sub-Junior basketball players attributed to age factor, length of participation and to the effect of the nature of basketball training session respectively. Finally, insignificant difference was found in body mass index, hip flexibility and fat weight would be due to non professional ways of training and participation. These findings provide normative data for school national basketball players competing at different levels of competition in India.

Keywords: General motor ability, body mass index, speed of movement

貴州省城鎮化進程中居民體育生活方式的研究

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Study on the sports life style of urban residents In the Process of City Building in Guizhou Province

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摘要

研究目的：對貴州省城鎮居民體育生活方式進行研究。

研究方法：採用“多階段分層隨機抽樣”的方法抽取研究對象進行問卷調查。

結論：

1. 貴州省城鎮居民在節假日和平日閒暇時間的主要活動是“看電視、聽廣播”、“讀書、看報”、“聊天”、“打牌、下棋”，充足的閒暇時間為體育生活方式提供了條件。

2. 貴州省城鎮居民的體育價值觀比較明確，主要是為了提高身體健康水平和豐富生活。參加體育鍛煉的目的以“增加體力活動”、“防病、治病”為主。其中沒興趣、缺乏場地設施、沒時間是影響居民參加體育鍛煉的主要原因。

3. 貴州省城鎮居民體育生活方式的基本特徵表現為：“經常鍛煉”的人數比例都還較低；參與頻度高、每次鍛煉持續時間較長、鍛煉強度適中；主要選擇走、跑步、小球類活動和登山等項目進行鍛煉；主要選擇就近的場所進行鍛煉，但是還需進一步有效的組織和科學的指導；由於貴州省處於欠發達欠開發地區，受經濟條件的限制，居民體育消費水平較低。

建議：

1. 加強宣傳與引導，建立城鎮居民良好的體育生活方式。

2. 加強體育設施建設，提高現有場地、設施的利用率。

3. 大力發展社會體育指導員隊伍和全民健身科技服務隊伍。

關鍵字：體育生活方式；城鎮化；貴州

Abstract

Objective: Study on the sports life style of urban residents in the Process of City Building in Guizhou Province.

Methods: To apply stratified sampling and take the study questionnaire.

Conclusion:

1. The main activity in holidays and leisure time on weekdays of urban residents in Guizhou Province was “watching TV, listening to the radio”, “reading, reading the newspaper”, “chat”, “playing cards, playing chess”. Plenty of free time provided the conditions for the sports life style.
2. Sports value of urban residents that was more clear, mainly to improve the health level and rich life. The main purpose of physical exercise was “increase physical activity” and “against the disease”. Which no interest, lack of facilities, the residents do not have time to participate in physical exercise was the main reason.
3. Sports life style of urban residents basic characteristics were as follows: the proportion of “Regularly participating in exercise” was still low; in high frequency, longer duration of each exercise, moderate-intensity exercise; the main choice of walking, running, small ball games and hiking and other exercise programs; the main choice of the nearest place to exercise, but need further effective organization and scientific guidance; the consumption structure was not reasonable enough, low levels of sports consumption.

Suggestion:

1. To strengthen advocacy and guidance, the establishment of good sports lifestyle of urban residents.
2. To enhance sports facilities, improve the existing facilities, facility utilization.
3. To develop social sports instructors teams and fitness instructors' science and technology services team.

Keywords: sports life style, city building, Guizhou Province

影響鹽城地區全民健身發展因素的分析

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Analysis of the influential factors for the development of the mass fitness in yancheng region

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摘要

從社會學角度對鹽城地區全民健身發展面臨的問題進行分析。結果認為組織管理薄弱、經濟保障不力、科學指導乏力、職業觀市場化是當前鹽城地區全民健身進程所面臨的主要問題，提出了增設和擴大管理機構、完善管理體制、建立全民健身服務體系、提高管理者和社會體育指導員綜合素質、積極轉變管理者觀念、加大政府投資力度、重視科研質量等建議。為相關部門制定全民健身三期工程計劃提供參考。

關鍵字：服務體系，全民健身，因素，發展，管理

Abstract

The problems of the mass fitness development in yancheng region was discussed from the perspective of sociology. The author expresses that, weakness in supervise, and no enough investment, and lack of scientific guidance, and marketable eye of occupation, are the great problems. And some advices are put forward the project of the mass fitness such as to increase and enlarge the mass fitness administrant institution, perfect the administrant system, upbuild the service system of the mass fitness, enhance the integration diathesis

of the supervisor and gymnast, change the concept of supervisor actively, reinforce the government investment, and regard the quality of science study, etc. This paper offers a reference for the relational department to constitute the thirdly phases plan of the mass fitness.

Keywords: yancheng region, the mass fitness, factor, analysis

基於行為理論大學生體育鍛煉行為特點及影響因素分析

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Study on Physical Exercise Behavior of college Students Based on Behavior Theory

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摘要

研究目的：鑒於學生的體質健康水平最終體現在學生的體育鍛煉行為上，本文基於行為定義的內涵與外延客觀分析學生的體育鍛煉的規律，以期為相關管理者預測和引導學生的鍛煉行為，提高學生體質健康水平提供理論依據。

研究方法：問卷調查法：對部分大學生進行總體及不同年級體育鍛煉行為調查；數理統計法。

研究結果：不同體育鍛煉行為主體的鍛煉行為結構分析：大學男生總體優於大學女生。理科學生總體優於文科學生。但高年級女生優於高年級男生。體育鍛煉內容呈現男生傾向大球項目女生傾向小球項目的態勢；大學生體育鍛煉行為內部需要及動力分析：大學生個體體育需要呈現多元態勢。大學生進行體育鍛煉行為時既想盡情痛快娛樂，又想健身健康表現為雙趨動機衝突的比例為69.1%，但是約有46%的大學生捨棄健身健康謀求盡情痛快娛樂，這有可能在一定程度上偏離健康軌道，出現損害健康的體育鍛煉行為。同時大學生既想鍛煉身體增進健康，又怕體育鍛煉耽誤學習（或其他事情）時間的趨避動機衝突的比例為27%，動機衝突有著不同的狀況；大學生體育鍛煉行為計畫分析：男女生在不同年級體育鍛煉行為擁有鍛煉計畫狀況呈現逐學年比例有所增大的態勢，但沒有鍛煉計畫的男女大學生的比例較大，部分大學生科學健身意識依然較低；大學生體育鍛煉

行為外部環境分析：自身動力、鍛煉的時間和場地是影響女生體育鍛煉的三大因素。高年級女生的健身鍛煉需求增強。缺乏指導、鍛煉場地是影響男生體育鍛煉的主要因素，高年級男生體育鍛煉的惰性加大。

結論與建議：基於女大學生自身生理特點及傳統健美觀念等因素，男女大學生的鍛煉結構有著明顯的不同。鍛煉結構方面女生優於男生，理科學生優於文科學生；大學生多元的體育需要決定了影響其體育鍛煉行為的強烈動機衝突趨向。基於高比例人數的娛樂雙趨動機衝突趨向表明以健康為基礎，以娛樂等大學生體育需要為誘因，加強體育鍛煉行為的科學、健康性的引導工作是高校體育工作者艱巨的任務；影響大學生體育鍛煉行為的因素據以不同年級有所不同，落實《全國億萬學生陽光體育運動》檔的硬體要求，強化大學生體育鍛煉的科學性是提高我國大學生的體質健康水平迫切要求。

關鍵字：大學生，體育鍛煉，行為，需要，動機

Abstract

Purpose of Study: Considering that the standard of the students' constitution and health is embodied on the physical exercise behavior, this article will based on the connotation and extension of definition of behavior objectively analysis the regular pattern of the students' physical exercise, aiming to predict and guide the students' exercise behavior for related directors, provide theory basis for improving the standard of the students' constitution and health.

Research method: Questionnaire: Do research to overall and different grade exercise behavior of partial university students; probability method.

Research results: Different exercise behavior subjects' exercise structural analysis: Boy students of university are generally better than girl students of university; science students are generally better than art students. But the girls are better than boys in senior grade. The content of the exercise shows that, boys are tended to big ball games, girls are tend to small ball games. The percentage of students who want gain both amusement and health was 69.1%,but there is almost 46%university students abandon health to seek for having fun, this could sometimes in some degree offset the health track, and there come up some exercise behavior that harmful to health. At the same time, the percentage of university

students want to have a better physical condition while worrying about the studying is 27%,the motive conflict has different condition; university students' exercise behavior scheduled analysis: the scale of boys and girls who have exercise plans in different grade is amplified term by term, but the scale of boys and girls who have no exercise plans is greater, partial university students are not conscious of scientific exercise; university students exercise behavior external environment analysis: self motive power, exercise hours and area are three major factor that infect girls' sports exercise. The demand of sports exercise of girls in senior grade increased. Lack of guidance, sports fields are main factors that infect boys, the inertness of senior grade boys increased.

Conclusion and suggestion: Based on the physiological characteristics of university girls and traditional concept of fitness, there is obvious difference of exercise structure between university boys and girls. In exercise structure, girls are better than boys, science students are better than art students; university students' multielement need of sports decided the strong motivation that infect them. The high scale of double entertain mental tend shows that based on health, the sports needs as incentive, strengthen the science of physical exercise behavior, healthy guidance is arduous task for university physical educators; the factors that infect university students' physical exercise behavior are differ from different grade, to carry out the <Sunshine sports for millions of students nationwide>file 's requirement, intensify the scientificity of university students' sports exercise are urgent demands to improving the constitution and health standard of university students nationwide.

Keywords: university students; physical exercise, behavior, demand, motivation

影響體育鍛煉行為的因素分析

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Analysis on Influence Factors to Urban Residents' Physical Exercise Behavior

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摘要

1.研究目的：廣東省國民體質監測結果顯示，成年人體質水平存在下降的趨勢，體質水平的發展與體育鍛煉存在密切的關係，隨著生產、生活等方式的現代化發展，人們有了更多的閒暇時間，而參加體育鍛煉的狀況卻並不樂觀。本研究旨在分析廣東省城鎮居民體育鍛煉行為的影響因素，為促進群眾體育發展提供參考。

2.研究方法：本研究採用問卷調查法、數理統計法、文獻資料法等研究方法對廣東省20~59歲城鎮居民的體育鍛煉行為進行研究分析。

3.研究結果：

3.1 廣東省城鎮居民體育鍛煉現狀分析：通過分析廣東省城鎮居民體育鍛煉現狀發現，廣東省城鎮居民參加體育鍛煉的狀況並不理想，且存在明顯的區域性差異和性別差異等諸多發展不均衡的現象。

3.2 體育鍛煉行為及影響因素的分析：

3.2.1 體育鍛煉行為與個人因素的關係：從個人對體育鍛煉的認知程度、社會階層及知識水平、年齡因素、心理因素、個人興趣愛好等方面分析“經常參加體育鍛煉”的比例結構。結果發現，各種因素均對體育鍛煉行為存在明顯的影響，且表現出不同的特徵。因此行為主體對體育鍛煉的認知水平、人口學因素、心理特點等是影響體育鍛煉行為發生、發展和保持的重要原因。

3.2.2 體育鍛煉行為與社會因素的關係：從環境因素來看，為居民提供

更多的公共體育場館等物理環境，及個體周圍的體育鍛煉氛圍等人文環境是目前制約體育人群發展的重要原因；從體育消費來看，消費結構的變化，制約體育消費的升級，進而影響體育鍛煉行為的發生；加強體育鍛煉知識宣傳和政府行為健康幹預成為目前制約居民體育鍛煉行為的重要因素。

4. **結論：**個人對體育鍛煉的認知、態度以及其他主觀因素是影響體育鍛煉行為的內在因素，它決定了體育鍛煉行為的發生，而社會因素作為客觀條件，它對體育鍛煉行為的發展和持續起到一種推動作用，是體育鍛煉行為的促成因素。人們對健康的認識程度已得到了較大提升，促使參加體育鍛煉的比例不斷擴大，但能達到相當的頻率、強度和持續時間人的比例卻發展緩慢，原因可能是社會因素對個人因素的幹預和促成的問題。

關鍵字：體育鍛煉行為，個人因素，社會因素，影響

Abstract

- 1. Research purpose:** Guangdong provincial national civil constitution monitoring results show that the adults' physique level trends to decrease; the development of physique level has a close relationship with physical exercise. With the modernization of production and life style, people have more leisure time, but it's not optimistic of taking physical exercise. This paper aims to analyze the influence factors to urban residents' physical exercise behavior of Guangdong province and further offers references to mass sports development.
- 2. Research methods:** This paper uses methods of questionnaire survey, mathematical statistics and document literature to analyze the physical exercise behavior of urban residents of age 20 to 59 in Guangdong province.
- 3. Research results:**
 - 3.1 Analysis to urban residents' physical exercise status in Guangdong province:** By analyzing the status of urban residents' physical exercise in Guangdong province, it's unsatisfactory of the status of urban residents' participation the physical exercise in Guangdong province, and regional difference and gender difference etc unbalanced development is obvious.

3.2 Analysis to physical exercise behavior and influence factors:

3.2.1 Relationship between physical exercise and personal factors: From the individual's cognition to physical exercise, social stratum and knowledge level, age, psychological factors, personal interests to analyze the proportion structure of "regularly participating in physical exercise", results show that all factors have an obvious effect to physical exercise behavior, and displays different characteristics. So the cognitive level of the individual to physical exercise behavior, demographic factors and psychological characteristics are important reasons of influencing physical exercise behavior occurrence, development and persistence.

3.2.2 Relationship between physical exercise behavior and social factors: From the environmental factors, to provide more public sports venues etc and the physical exercise surrounding environment of the individual etc human environment is currently an important reason of restricting the development of sports population; from the sports consumption, the change of consumption structure restricts the promotion of sports consumption, and further affects physical exercise behavior; to strengthen physical exercise knowledge propaganda and government behavior health intervention becomes important factors of restricting residents' physical exercise behavior.

4. Conclusions: Individual' cognition and attitude to physical exercise and other subjective factors are intrinsic factors of affecting physical exercise behavior, which determines the occurrence of physical exercise behavior, and social factors as objective conditions plays a great role in promoting the development and persistence of physical exercise behavior, and is a contributing factor of physical exercise behavior. People's understanding to health has improved, which promotes the increase of the ratio of taking physical exercise, but the proportion of people who can achieve quite frequency, intensity and duration develops slowly, the reason is probably the social factors' intervention and contribution to individual factors.

Keyword: Physical Exercise, Personal factors, Social factors, Affect

成都市國民體質監測調查問卷分析

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The Analysis on Questionnaire of Physical Fitness in Chengdu

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摘要

目的：通過對2010年成都市國民體質監測3-6歲幼兒、20-59歲成年人以及60-69老年人的城鄉居民進行抽樣調查，並將問卷的有關內容加以處理，旨在瞭解成都地區幼兒、成年人、老年人的日常生活習慣和體育鍛煉的基本情況，進一步為全民健身計畫的實施和制訂相應的改善措施提供科學依據。

方法：以2010年成都市國民體質監測幼兒、成年人和老年人作為研究對象，採用統一的調查問卷，由監測人員對調查對象的生活習慣、體育鍛煉、患病情況等方面進行問卷調查，並對結果進行常規的數據統計學處理及分析。

結果：成都市3-6歲幼兒採用人工餵養的比例有所增加，但食用油炸食品、甜食、速食麵、碳酸飲料、洋速食等現象比較嚴重。上全日制的幼兒在幼稚園中參加身體活動以及靜態活動時間多數在1小時以上。成年人出門交通方式選擇步行的最多，其次為自駕車，老年人出行多採用的是步行和乘車。成年人工作狀態以“工作中靜坐伴有上肢活動或者以站為主”最多。經常參加體育鍛煉的成年人占調查人數的11%，經常參加體育鍛煉的鄉村居民比城鎮居民少。老年人病患人數較多，其中以高血壓最為常見，其次為骨關節病、消化性潰瘍和糖尿病。經常參加體育鍛煉的老年人比成年人多，占26.8%，尤以城鎮老年女性最多。

關鍵字：成都市，問卷調查，體育鍛煉

Abstract

Purpose: Through the systematic analysis on the questionnaire of the 2010 National Fitness Monitoring in Chengdu on children, adults and the old people. Aim to promoting

the sport for as well as improving social development.

Results: The proportion of 3-6 years old children's artificial feeding in Chengdu has increased, but the appearance of eating fried foods, sweets, instant noodles, carbonated beverages, and other fast food are more and more serious. The most adults go out by walking and by car. Most of them sit still or stand for a long time when they are in work. Adults participate in physical activity regularly accounted for 11%. The old people get sick easily. Hyperpiesia, osteoarthropathia and diabetes are in common. The old women in city have participated in exercise more regularly.

Keywords: Chengdu, Questionnaire, Exercise

高校體質未達標學生體育行為的心理特徵相關分析

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Analysis of College Students Psychological Features in Physical Training—a study with students whose physique status is below the set standard level

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摘要

學生體質的強弱關係著一個國家、民族、社會的發展和強大，增強學生體質是學校體育教學的主要目的和任務。本文嘗試以高校體質未達標學生為研究對象，深入分析這一群體體育鍛煉行為的心理特徵，瞭解其心理特徵產生的內外原因，提出自我的一些對策和看法，期待更好的指導學生參加體育鍛煉，從而全面提高學生的體質。

關鍵字：體質，未達標學生，體育行為，心理特徵

Abstract

College students' physique status has much to do with the development and powerfulness of a state, a nation and a society. It is the primary objective and duty for all schools to build up students' physique status. Setting the research aim on the college students whose physique is below the set standard level, this article makes an attempt to comprehend the intrinsic and extrinsic factors attributing to students' psychological features in physical training, make a deep analysis of these psychological features and put forward some personal viewpoints as well as some countermeasures to instruct students' physical training more appropriately and better their overall physique status.

Keywords: Physique, Students whose physique below the set standard level, Sports behavior, Psychological Feature

淺析2010年江西省國民體質監測保障體系建設及建議

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The Initial Analysis on the Guarantee System building and Suggestion for Civil Constitution Monitoring in Jiangxi Province

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摘要

江西省在2010年借助第三次全國國民體質監測活動契機，首次開展了全省國民體質監測活動，並形成了一整套確保活動質量的保障體系。本文通過對江西省2010年國民體質監測保障體系的分析，進行了反思，為江西省今後高質量開展國民體質監測工作和如何發揮國民體質監測體系提出了建議。

關鍵字：江西省，體質監測，保障體系，分析與建議

Abstract

The civil constitution monitoring action is developed in whole Jiangxi province during the third national civil constitution period in 2010, and a guarantee systems for action quality is built in Jiangxi province. Some suggestions are brought up for doing civil constitution monitoring with high quality and perfecting the civil constitution monitoring systems on the basis of the analysis and consideration about the function of the guarantee systems for the civil constitution monitoring in Jiangxi in 2010.

Kew words: Jiangxi province; constitution monitoring; guarantee systems; analysis and suggestion

江西省青少年體質變化分析與對策研究

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The Analysis on the Variety of Body Constitution for the Youngster in Jiangxi Province and the study on countermeasure

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Abstract

The youngster signify the hope and future for one country, their body constitution and individual attainment have influence on the national rise and decline as well as development. According to the simultaneously comparative study on the body constitution monitoring data obtained from 2000-2010 between that for the youngster in 11 districts in Jiangxi province and that for the young students in schools in whole country, the influence factors on the body constitution development in Jiangxi province are studied deeply, and the countermeasures for how to advance constitution situation in Jiangxi province are brought up.

Keywords: Jiangxi province, the youngster, variety in body constitution, analysis and countermeasure

對比2005年對吉林省成年人體質狀況變化趨勢的研究

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Contrast of Jilin province in 2005 adults' physical conditions change trend of research

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摘要

2005年與2010年，我省配合國家國民體質監測中心順利的完成了第二次和第三次國民體質監測吉林省的數據監測工作。本文通過將兩次測試的數據進行對比研究，分析吉林省成年人國民體質各單項指標的變化特點，瞭解吉林省成年人體質狀況變化趨勢。採用文獻資料、問卷調查、數理統計、邏輯分析等方法進行研究。得出以下結論：

1. 與2005年相比，2010年20~39歲成年男性的上臂部皮褶厚度、腹部皮褶厚度、肩胛部皮褶厚度、俯臥撐、體重、腰圍、選擇反應時、臀圍、收縮壓、身高、胸圍、背力等指標有所提高，幅度在0.2%~10.1%之間；舒張壓、臺階指數、肺活量、安靜脈搏、握力、縱跳、閉眼單腳站立、坐位體前屈等指標有所降低，幅度在0.5%~23.5%之間。

2. 20~39歲成年女性的身高、體重、胸圍、腰圍、臀圍、收縮壓、1分鐘仰臥起坐、選擇反應時等指標有所提高，幅度在0.04%~5.3%之間；上臂部皮褶厚度、舒張壓、肺活量、肩胛部皮褶厚度、腹部皮褶厚度、安靜脈搏、握力、背力、縱跳、閉眼單腳站立、坐位體前屈和臺階指數等指標有所降低，幅度在0.8%~12.9%之間。

3. 40~59歲成年男性的皮褶厚度（上臂部、肩胛部、腹部）、胸圍、選擇反應時、體重、臀圍、腰圍、舒張壓、收縮壓、身高等指標有所提高，幅度在0.5%~26.0%之間；肺活量、安靜脈搏、握力、臺階指數、閉眼單腳站立和坐位體前屈等指標有所降低，幅度在3.7%~26.4%之間。

4. 40~59歲成年女性的選擇反應時、體重、腰圍、臀圍、收縮壓、舒張壓等指標有所提高，幅度在0.2%~4.8%之間；身高、皮褶厚度（上臂部、肩胛部、腹部）、安靜脈搏、胸圍、肺活量、握力、坐位體前屈、閉眼單腳站立、臺階指數等指標有所降低，幅度在0.2%~13.5%之間。

成年男性與女性在各個年齡段上形態、機能、素質等單項指標都有所變化，且總體、男性、女性達成率較之2005年呈下降趨勢。

關鍵字：成年人，體質監測，變化趨勢

Abstract

In 2005 and 2010, in our province, cooperate with national physical fitness monitoring center of the smooth finished the second and third civil constitution monitoring data monitoring of Jilin province. This paper will two tests data comparison analysis of national physical adults Jilin province each single index of change characteristics, understand the change trend of the physical conditions of Jilin province adults. By using the literature material, questionnaire survey and mathematical statistics, logic analysis. Draw the following conclusions:

1. Compared with 2005, 2010 20~39 adult male of the upper arm skin fold, abdomen skin fold, shoulder department skin fold, push-ups, weight, waist circumference, choose response, hip circumference, systolic blood pressure, height, chest circumference, back force increased index, range between 0.2%~10.1%; Diastolic blood pressure, steps index, vital capacity, quiet grip, pulse, the jump and close my eyes standing on one foot in succession, crook proneness index decrease, range between 0.5% and 23.5%.
2. 20~39 adult female height, body weight, chest circumference and waist, hip circumference, systolic blood pressure, 1 minute sit-ups, choice and improve reaction index, range between 0.04%~5.3%; The upper arm skin fold, diastolic blood pressure, vital capacity, shoulder department skin fold, abdomen skin fold, quiet grip, the back pulse, strength, and the longitudinal jump and close my eyes standing on one foot in succession, crook proneness and steps indices, decrease, range between 0.8% and 12.9%.

3. 40 and 59 years old of adult men skin fold(the upper arm, shoulder department, abdominal), chest circumference, choose response, weight, hip circumference, waist circumference, diastolic blood pressure, systolic blood pressure, height and index raised, range between 0.5%~26.0%; Vital capacity, quiet grip, pulse, steps index and close my eyes standing on one foot and Kuwaiti proneness index decrease, range between 3.7% and 26.4%.
4. 40 and 59 years old adult female choice response, weight and waist, hip circumference, systolic blood pressure, diastolic pressure index raised, range between 0.2%~4.8%; Height, skin fold (the upper arm, shoulder department, abdominal), quiet pulse, chest circumference, vital capacity, grip in succession, crook proneness and close my eyes standing on one foot, steps indices, decrease, range between 0.2% and 13.5%.

Adult male and female all ages in the form, function, and quality single parameter are changing, and overall, men, women success rate than in 2005 to drop.

Keywords: grown-ups, physical fitness surveillance, Change trend

吉林省城鄉幼兒（3~6歲）體質狀況的對比分析

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Comparative analysis of the physical condition of Jilin Province, urban and rural children 3 to 6 years

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摘要

研究目的：全面瞭解吉林省3~6歲幼兒的城鄉體質現狀；比較分析城鄉幼兒身體形態、機能和素質等指標的變化規律及特點，對進一步提高我省幼兒的體質健康水平以及更好地開展幼兒體質研究具有重要意義。

研究方法：本研究以2010年吉林省第三次國民體質監測3-6歲幼兒組為研究對象。以每週歲為一組（3歲、4歲、5歲、6歲），將其分四類樣本（城市男、女，農村男、女）共16組，累積收集樣本量1672人。通過問卷調查法、文獻資料法、SPSS18.0以及excel統計軟體，對該數據進行整理統計、邏輯比較等綜合分析。

研究結果：

1. 2010年吉林省3~6歲幼兒體質的總體優秀率為4.43%，良好率為15.97%，總體達成率為81.28%，經統計分析除男性幼兒3歲時體質達成率農村較城市下降13.88個百分點以外，其餘各個組別農村的體質達成率均高於城市，上升幅度在7.15~75.62個百分點之間。

2. 城鄉男女幼兒在身體形態上均存在差異，身高、坐高整體上鄉村幼兒略高於城市幼兒，尤其6歲時農村男女幼兒的指標均明顯高於城市幼兒，胸圍和體重男幼兒無城鄉差異，女性幼兒3歲時胸圍農村明顯高於城市，5歲時體重城市明顯高於鄉村；皮褶厚度方面，城市幼兒高於鄉村幼兒，在4-5歲城市女性幼兒上較為突出。代表身體機能的安靜心率城鄉無差異。

3. 城鄉幼兒的身體素質各有優勢，農村幼兒除柔韌性較城市幼兒差外，在

跑、跳、擲、平衡能力上鄉村幼兒均強於城市幼兒。

結論：除3歲農村男性幼兒體質達成率低於城市以外，其餘農村各年齡組幼兒的體質達成率均高於城市。男女幼兒身體機能城鄉無差異；在身體形態上均存在城鄉差異，身高、坐高整體上鄉村幼兒略高於城市幼兒，胸圍和體重男幼兒無城鄉差異，女性幼兒3歲時胸圍農村明顯高於城市，5歲時體重城市明顯高於鄉村；皮褶厚度方面，城市幼兒高於鄉村幼兒。說明隨著人民生活水平的提高，經濟的進步，生活環境的改善，文化生活的豐富，城鄉差距逐漸縮小，農村幼兒餵養的營養狀況較好，食物攝入比較合理，農村幼兒的生長發育水平較城市快，分析得出城市4-5歲幼兒是體重增加，肥胖的高峰期，應引起廣大家長的高度重視。城鄉幼兒的身體素質各有優勢，農村幼兒除柔韌性較城市幼兒差外，在跑、跳、擲、平衡能力上鄉村幼兒均強於城市幼兒，說明農村幼兒活動空間相對較大，體育活動較多，戶外活動時間較長，生長發育較快，體質狀況優於城市幼兒。

關鍵字：城鄉，幼兒，體質狀況，對比分析

Abstract

Objective: To fully understand the physical status quo of Jilin Province, 3 to 6-year-old children in urban and rural; comparative analysis of the variation and characteristics of urban and rural children body shape, function and quality indicators to further improve the physical health of children in our province, as well as better to carry out child care physical significance.

Methods: In this study, of 2010 Jilin Province, the third national physique monitoring 3-6 years old children group. Each age of a group (3-year-old, 4 years old, 5 years old 6 years old) will be divided into four categories of samples (urban male, female, rural male and female) a total of 16 groups, the cumulative collection of the sample size of 1672 people. Through the questionnaire survey, literature, the SPSS18.0 as well excel statistical software, the data to collate statistics, logical comparison and comprehensive analysis.

Results:

1. Of 2010 Jilin Province, 3 to 6 years old children overall excellent physical rate of

4.43%, a good rate of 15.97%, the overall compliance rate of 81.28%, the statistical analysis in addition to the standard rate of male children 3 years old physique rural decline of 13.88 percentage points compared with the city outside the physical compliance rates of the remaining groups in rural areas than in urban, rise between 7.15 to 75.62%.

2. Body shape, the male and female children in urban and rural areas there are differences in height, sitting slightly higher than the urban children of rural children in the high overall, especially the age of 6 children of rural men and women were significantly higher than urban children, bust and body weight of male children without urban and rural differences in female children 3 years old bust in rural areas was significantly higher than the city, the city was significantly higher than the rural in the age of 5 weight; skin fold thickness, urban children than rural children 4-5 years old urban women and young children are more prominent. No difference in resting heart rate of urban and rural areas on behalf of the bodily functions.
3. Physical fitness have their respective advantages of both urban and rural children, rural children in addition to flexibility than poor urban children, running, jumping, throwing, balance, rural children are stronger than the city children.

Conclusion: In addition to the 3-year-old rural male children constitution compliance rate is lower than outside the city, children of all age groups in the rest of rural physical standards were higher than the city. No difference between male and female children physical function of urban and rural areas; urban-rural differences in body shape, height, sitting high on the whole village children slightly higher than the urban children, urban and rural differences in girth and weight of male children, female children 3 years old bust was significantly higher than in rural areas The city, at the age of five weight city was significantly higher than rural; skin fold thickness, urban children than rural children. On with the improvement of people's living standards, economic progress, the improvement of living environment, cultural life of the rich, gradually narrowing the gap between urban and rural areas, rural and young child feeding, better nutritional status, food intake is more reasonable, rural early childhood growth and development levels city quick analysis reveals that the city 4-5 years old children is weight gain, obesity peak period and should attach great importance to cause the majority of parents. Respective advantages of the physical quality of the urban and rural children, rural children in addition to flexibility than

poor urban children run, jump, throw, balance of rural children are stronger than urban children, on child care activities in rural areas relatively large space and sports activities. outdoor activities a long time, rapid growth and development, physical condition than city children.

Keywords: Urban and rural, Child Care, Physical condition, Comparative analysis

長春市城市腦力勞動者體質機能、健康水平與生活方式關係的探討

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The relationship between function, health and lifestyle of Changchun city mental physical

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摘要

1. 研究對象：以長春市參加吉林省2010年國民體質監測中20—59歲的城市非體力勞動者為研究對象，隨機抽取506例有效樣本做為研究對象，其中男性274人，女性232人。將研究對象分為四個組：即第一組（生活規律鍛煉組）、第二組（鍛煉但是生活不規律組）、第三組（生活規律基本不鍛煉組）、第四組（生活不規律不鍛煉組）。

2. 研究方法：問卷調查法、文獻資料法、健康體適能檢測法。在對研究對象進行基本的國民體質監測指標測定的同時，補充監測骨密度、體成分等多項重要的健康指標測定並結合填寫生活方式調查問卷，研究探討生活環境因素對城市腦力勞動者體質以及健康水平的影響。根據研究結果提出了相應的比較科學合理的健康促進建議。

3. 研究結果：

1. 長春市城市腦力勞動者中關於生活方式的性別差異，其中男性受試者參加體育鍛煉的人數比例明顯高於女性受試者，而女性受試者生活作息比較規律，具有良好生活習慣的人數比例又遠遠高於男性受試者。

2. 體育鍛煉和良好的生活習慣對於受試者的體質具有良好的促進作用。

3. 男性受試者體質測試結果的整體水平好於女性。

4. 在生活方式對於體質影響的因素中，體育鍛煉具有更明顯的促進作用。

5. 長春市城市腦力勞動者健康狀況整體水平令人堪憂，尤其是男性受試者表現的更為明顯，健康檢查的結果女性的整體水平好於男性。

6. 從生活方式調查問卷中發現，男性受試者中長期吸煙飲酒、飲食睡眠不規律的人群比例遠遠高於女性，這從另一個側面反映出良好的生活習慣對於一個人的健康具有極其重要的作用。

4. **結論：**良好的生活方式是提高腦力勞動者體質、健康水平的關鍵所在，腦力勞動者提高體質、改善健康最關鍵的還是要靠加強自我保健意識，我們宣導正確的生活方式，糾正不良生活習慣。

關鍵字：城市腦力勞動者，體質，健康，生活方式，影響

Abstract

- 1. The object of study:** to participate in Changchun City, Jilin Province in 2010, people's physique monitoring 20-59 years of urban non-manual workers for the study, randomly selected sample of 506 cases effectively as a research object, in which 274 men, 232 women people. Subjects were divided into four groups: first group (group life, regular exercise), the second group (group exercise, but life is not the law), the third group (the basic law of life, not the exercise group), the fourth group (life is not law does not exercise group).
- 2. Two research methods:** questionnaire survey, literature, health-related fitness test method. In the study of people's physique monitoring the basic parameters were measured at the same time, additional monitoring bone density, body composition and many other important health indicators were measured and combined with complete lifestyle questionnaires, studies of environmental factors on urban living physical and mental health impact. Based on the results of the corresponding scientific and rational comparison of health promotion advice.
- 3. Findings:**
 1. Changchun city mental gender differences on the lifestyle, of which male subjects participated in physical activity was significantly higher than the proportion of

female subjects, while female subjects more regular lifestyle, good habits are much higher than the proportion of male subjects.

2. Physical exercise and good habits for subjects with a good role in promoting physical fitness.
 3. Male subjects the overall level of physical fitness test results better than women.
 4. The impact of lifestyle factors for physical, physical exercise has a more significant role in promoting.
 5. The overall level of mental health is worrying in Changchun City, especially the performance of the more obvious male subjects, the results of health checks good overall level of women than men.
 6. From the lifestyle survey found that male subjects and long-term smoking, drinking, irregular sleep, diet is much higher than the proportion of women in the crowd, which reflects another side of the good habits for a person health is extremely important role. 4
4. **Conclusion:** The good life is to improve the mental body, the key to health, mental improve physical fitness, improve health, the most important thing is to rely on enhanced self-care awareness, we advocate the right of way of life, to correct bad habits .

Keywords: urban mental, physical fitness, Health, Lifestyle, impact

結合居民體質調查結果探討吉林省群眾體育發展現狀

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Combining the results of the residents' Physical investigation discusses
mass sports development present situation of jilin province

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摘要

研究目的：群眾體育發展水平決定人民群眾健康水平，本文通過對我省居民體質測量資料結合生活方式及體育鍛煉的問卷調查，考察我省居民的體質狀況及從事群眾體育鍛煉實現程度並綜合分析我省現階段群眾體育發展特徵，以期為我省未來幾年群眾體育發展方向及發展需求提供理論基礎。研究方法，採用了文獻資料法、問卷調查法、數據測量法、數理統計分析等科研方法。

結果：

1. 居民體質綜合評價。成年居民不合格率為17.24%，合格率為50.87%，良好率為23.18%，優秀率為8.68%；不同年齡組別成年男性體質評價成績差異性不顯著；成年女性（40~59歲）組合格率顯著高於（20~39歲）組；成年女性（20~39歲）組良好率顯著高於其他三個組別。老年居民不合格率為9.64%，合格率為64.88%，良好率為16.19%，優秀率為5.59%；其中，老年女性良好率和優秀率顯著高於老年男性，而不合格率顯著低於老年男性，合格率基本相等。

按社會職業結構分類，鄉村女性組不合格率明顯高於其餘組別，合格率、良好率及優秀率略低於其他組別；城鎮非體力勞動者女性組合格率和與其他組別相差不明顯、良好率和優秀率顯著高於其他組別、而不合格率明顯低於其他組別。

按閒暇時間參加體育鍛煉活動種類區分，閒暇時間靜態活動為主的居民占78.27%，輕家務勞動為主的居民占2.03%，重家務勞動為主的居民占9.08%，散步為主的居民占5.05%，小強度體育鍛煉為主的居民占0.66%，中等強度體育鍛煉為主的居民占1.63%，大強度體育鍛煉為主的居民占3.30%。經常參加大強度體育鍛

煉的居民優秀率和良好率顯著高於經常參加其他體育活動的居民，從而合格率和不合格率也最低。

從以上四個方面總結發現，5874例樣本中達到《國民體質測定標準》規定的“合格”以上標準的人數比例為83.0%。20~39歲成年人組為83.4%，40~59歲成年人組為82.1%，60~69歲老年人組為86.8%。男性居民達到“合格”以上標準的比例為82.1%，女性為83.8%。城鎮居民達到“合格”以上標準的比例為83.4%，鄉村為82.3%。

2. 鄉村居民所居住社區體育鍛煉設施遠遠少於城鎮居民。

3. 不同消費層次的居民受其收入影響，所從事的體育鍛煉的主要場所和運動項目差別很大。

關鍵字：群眾體育，體質評價，發展特徵

Abstract

Purpose: The mass sports development level decides to people's health level. This article combining physical measurement data and questionnaire to analyze different areas residents' physical conditions and investigate the mass sports development level of our province aims at comprehensive analyzing the mass sports development characteristics at this stage in our province, in order to divide the mass sports development direction and needs in the next few years to provide the theory basis.

Methods: Using the methods of documentary, questionnaire investigation, data measurement method, mathematical statistical analysis and research methods.

Results:

1. The residents' comprehensive evaluation. Adult residents don't qualified rate was 17.24%, the qualified rate was 50.87%, good rate was 23.18%, the excellence rate is 8.68%; Different age groups adult male physical evaluation result no significant difference; Adult women (40 to 59 years old) group qualified rate was significantly higher than (20 to 39 years old) group; The good rate of adult women (20 to 39 years old) group is significantly higher than other three groups. Older residents don't qualified rate was 9.64%, the qualified rate was 64.88%, good rate was 16.19%, the excellence rate is 5.59%; Among them, the older women good rate and excellence rate

was significantly higher than older men, and not qualified rate significantly lower than older men, the percent of pass basic equal.

According to social vocational structure classification, country women group was higher than the rest of the group, percent of pass, good rate and excellence rate slightly lower than other groups; Urban immanual workers qualified rate and other groups of women are not obvious, good rate and excellence rate was significantly higher than other groups, and not qualified rate was significantly lower than the other groups.

According to the leisure time for physical exercise activity type distinguish, leisure activities as static residents accounted for 78.27%, light housework primarily residents accounted for 2.03%, heavy housework primarily residents accounted for 9.08%, mainly for a walk residents accounted for 5.05%, low intensity physical exercise of mainly residents accounted for 0.66%, moderate intensity exercise primarily residents accounted for 1.63%, high intensity exercise primarily residents accounted for 3.30%. Often attend high intensity exercise residents and excellence rate good rate was significantly higher than other sports activities often attend residents, and the qualified rate and also the lowest; Often engaged in heavy housework and medium strength the inhabitants of physical exercise and excellence rate were safe basic equal, leisure time engaged in the rest of several different sports activities on the physical effect is not obvious difference evaluation.

From the above four summarized found 5874 cases of samples reached the national physique determination standards of "qualified" above the number of standard rate of 83.0%. 20 to 39 years old adults group is 83.4%, from 40 to 59 years old adult group is 82.1%, from 60 to 69 years old group is 86.8%. Male residents reached a "qualified" above the proportion of, 82.1% of women. Urban residents reached a "qualified" the above standard and 83.4% in the country for 82.3%. Compared with 2000, in our province, constitution synthetical index of 96.62 people, among them, the male is 95.719, the female is 97.61; Country of 96.23, town is 96.85.

2. Sports exercise facilities of rural residents living villages far less than urban residents.
3. Different consumption levels of residents affected by the impact of income, are engaged big difference in sports exercise of the main places and kinds.

Keywords: Mass sports, physical evaluation, development characteristics

天津市老年人體質城鄉差異對比分析

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Compare physical conditions of the elder in Tianjin urban and rural areas

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摘要

一、研究目的：通過對天津市城鄉60~64歲和65~69歲兩個年齡組男、女老年人共計2172人體質監測的結果進行分析，比較天津市老年人在身體形態、機能和素質指標城鄉之間存在的差異，目的是瞭解天津市城鄉老年人的體質特徵及規律，為天津市政府有針對性的制定和實施老年人科學健身的有關政策，保持和提高天津市老年人的體質健康水平以及縮小天津市城鄉老年人的體質差距提供可參考性的依據。

二、研究對象與方法

2.1 研究對象：採取分層隨機抽樣的方式，抽取天津市60-64歲和65-69歲兩個年齡段的2172名男女老年人為研究對象。

2.2 研究方法：嚴格依照國家體育總局《2010年國民體質監測工作方案》的要求進行測試，監測內容包括形態、機能、素質指標、派生指標BMI等同時，對所有監測對象進行問卷調查，測試結果採用spss17.0進行數理統計和處理。

三、結論與建議：

3.1 天津市老年人的形態指標，除男性老年人的皮褶厚度，城鄉差異高度顯著外，其他大部分指標城鄉男女老年人差異無顯著性。

3.2 天津市老年人的身體機能指標，60-64歲男女老年人脈搏、65-69歲男性

老年人的收縮壓、60-64歲男性老年的舒張壓城鄉具有顯著性差異，女性老年人的肺活量，城市大於鄉村，其他指標城鄉老年人均無顯著性差異。

3.3 天津市城鄉老年人的素質指標比較發現，男性老年人和女性老年人反應時，城市明顯優於鄉村，差異性極其顯著，其他大部分指標無顯著性差異。

3.4 全面實施全民健身計畫的同時，加大大力宣傳力度，特別是針對鄉村老年人，提高鄉村老年人的體育鍛煉意識和健康意識。

3.5 充分發揮政府的主導作用，組織社會各界力量，建立健全老年人體育鍛煉組織管理體系，加大培養優秀社會體育指導員的力度，提高天津市老年人參與體育鍛煉的熱情和積極性。

關鍵字：老年人，體質監測，體質，城鄉

1. Purpose: Through the analysis to national physical fitness surveillance of two age groups 60~64 and 65~69, totally 2,172 male and female elder from Tianjin urban and rural areas, this paper will compare the differences of the elder in physical state, function and quality indicators, purposing to understand the physical characteristics and regularity of the elder in both urban and rural areas. It works as the basic reference for Tianjin government to make and implement related policies on scientific physical fitness, to maintain and improve the physical health of the elder and to narrow the physical condition gaps among the elder from urban and rural areas.

2. Objects and Methods of Study:

2.1 Objects: It selects the objects at random and selects a total of 2,172 male and female elder from age group 60-64 and 65-69 as the study objects.

2.2 Method: It strictly carries out the tests in accordance with the requirements of '2010 National Physique Fitness Surveillance Program' made by State Sports General Administration. The surveillance contents include the physical state, physical function, physical quality, derivative indicator BMI, etc, at the same time, it also conducts a questionnaire survey to all the surveillance objects and the results adopt spss17.0 to make mathematical statistics and processing.

3. Conclusions and Suggestions:

- 3.1 Physical State: There is no significant difference in most of the indicators, except that a significant different on male's wrinkle thickness.
- 3.2 Physical Function: there are significant differences on pulse of male and female elder in age group 60-64, on systolic pressure of men in age group of 65-69, on diastolic blood pressure of men in age group 60-64; in addition, the female elder from urban areas have strong vital capacity than those from rural areas. All the other indicators show no significant differences.
- 3.3 Physical quality: The reaction of male and female elder from urban areas is better than those from rural areas and the difference is significant; all the other indicators show no significant differences.
- 3.4 When fully implement national fitness program, the relevant authorities should increase the publicity efforts, especially to the elder from rural areas, in order to increase their awareness in physical exercises and health.
- 3.5 The government should play its leading role in organizing all social forces, build up a sound organization and management system for the elder's physical exercises, increase the efforts to train outstanding social sports instructors and increase the elder's enthusiasm in participating in physical exercise.

Keywords: the elder, physical fitness surveillance, physical condition, urban and rural areas

天津市老年人體育鍛煉現狀調查研究

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Investigation and Study on Present Physical Exercise Situation Among the Aged People in Tianjin

摘要

一、研究目的：隨著社會和經濟的不斷發展，人民生活品質的不斷改善，發展體育運動，提高全民身體素質已成為全面建設小康社會的重要標準。老年人的體質健康受到了社會各界的廣泛關注，健康長壽也成為人們追求生活的目標。本著以人本的觀念，本文對天津市老年人參與體育鍛煉的基本情況：如鍛煉內容、鍛煉強度、參與形式、指導員的現狀等問題進行研究，以期為天津市老人體育活動的可持續發展提供參考。

二、研究對象與方法

1. 研究對象：天津市各區縣老年人，年齡在60~69歲。

2. 研究方法：採用文獻資料法、問卷調查法、數理統計法等查閱大量的文獻資料，根據本研究目的、任務的需要，制定科學合理的調查問卷，對天津市參與或非參與體育鍛煉的老年人進行調查（共發放問卷1000份，回收問卷920份，其中有效問卷780份，有效率為84.6%）。根據調查問卷所得出的數據，對所有資料進行審核，剔除少數不合格問卷，對所有收集到的數據資料用Microsoft Excel錄入，然後進行數據處理與分析。

三、研究結果：

1. 天津市老年人願意參加和非常願意參加體育鍛煉的人員占72.7%，有時願意參加的人員占22.9%，不願意參加的人員占4.4%。

2. 天津市有46.5%的老年人每週參與體育鍛煉的次數達到了3次，有55.1%的老年人每次鍛煉時間在30分鐘以上。

3. 天津市老年人參與體育鍛煉的項目選擇依次是：走（健步等各種走）、健身氣功、太極、毬球、交誼舞、跑步、地擲球、門球、游泳、秧歌、健身健美

操、廣播操。

4. 天津市老年人參與體育鍛煉的方式：64%的人選擇與朋友一起鍛煉，25%的人選擇與自己家人一起鍛煉，11%的人選擇獨自鍛煉。

5. 天津市老年人參與體育鍛煉的場所選擇依次是：單位或社區體育場所、住宅社區空地、廣場、公園、樹林、河、湖泊、山丘、自家庭院、公共體育場館。

6. 影響老年人參加體育鍛煉的因素有：缺乏場地器材、缺乏統一管理、無專人指導、家庭負擔重精力不足、身體好不用鍛煉、沒有自己喜歡或擅長的運動等。

四、結論與建議：

1. 天津市老年人參與體育鍛煉的熱情較高，應繼續加大《天津市全民健身條例》的宣傳力度，強化科學健身，進一步提高老年人參與體育鍛煉的主觀能动性。

2. 天津市老年人體育鍛煉項目的選擇呈現出多元化的趨勢，走、健身氣功、太極、交誼舞等技術動作較為簡單、節奏較為緩慢的鍛煉專案。政府應當認真貫徹《天津市全民健身條例》保障老年人體育鍛煉工作更深、更廣有效的開展。

3. 天津市老年人參與體育鍛煉的認識較好，無論是鍛煉次數還是鍛煉持續時間上都還是不錯的，但“缺乏場地器材”“缺乏統一管理”“無專人指導”等成為影響老年人參與體育鍛煉的重要因素。充分發揮政府的主導作用，組織社會各界力量，通過有效途徑完善場地器材建設，建立健全老年人體育鍛煉管理體系，加大培養優秀社會體育指導員的力度。

關鍵字：老年人，體育鍛煉，鍛煉認知

Abstract

Research purposes:

With the continuous development of society and the economy, the quality of people's life is continuously improved. To develop sport and enhance the people's physical fitness has become an important criterion for the comprehensive construction of a well-off society. The physical health of the aged people has been widely concerned, being healthy and long-lived has also become people's goal of life.

In the concept of taking people as the foremost. In this article, we researched the basic situation about the aged people in Tianjin taking physical exercise. Such as, their exercise contents and exercise intensity, the form of their participation, the situation of their instructors, so as to provide a reference for the sustainable development of sports activities for the elderly in Tianjin

The results of the research are as follows:

1. The number of the aged people in Tianjin who are willing to and very willing to participate in physical exercise takes 72.7%, those elderly people who are willing to participate in physical exercise occasionally accounts for 22.9%, while the number of aged people who are unwilling to participate in physical exercise accounts for 4.4%.
2. 46.5% of aged people's frequency of weekly exercise participation have reached 3 times in Tianjin. 55.1% of the elderly's each exercise time is more than 30 minutes.
3. The order of the sports items the elderly in Tianjin like to participate in is: Walking (vigorous strides and other kinds of walking), Qigong for bodybuilding, Tai Chi, Shuttlecock, ballroom dancing, running, bocce, croquet, swimming, Yangko, bodybuilding Aerobics, and

Broadcast gymnastics:

4. The ways the aged people would like to choose to participate in physical exercise in Tianjin are: 64% of people choose to do exercise with friends, 25% of them choose to do exercise with their families, while 11% of the elderly people choose to do exercise alone.
5. The sites the elderly people in Tianjin like to choose when doing physical exercise are: sports venues in companies or residential quarters, open space in residential quarters, squares, parks, forests, rivers, lakes, hills, their yards, public stadiums.
6. The factors that may affect the older people to participate in physical exercise are: lack of venues and equipment, lack of unified management, non-supervised, lack of energy because of heavy family burdens, thinking themselves are now in good health and do not need to do exercise, there are no items they like or they are not good at sports.

keywords: The aged, Physical exercise, Perception of Physical exercise

寧夏回族自治區成年人體質現狀及變化特徵研究

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The Analysis on the Adult Physical Fitness of NingXia in 2010

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摘要

本文通過對2005、2010年寧夏國民成年人體質監測中身體形態、機能、素質部分測試指標及其派生指標，從年齡變化趨勢和性別差異等層面進行分析描述，力圖進一步反映寧夏成年人體質現狀及變化特徵。結論得出：1、2010年寧夏回族自治區成年人群的身體長度、圍度還是體重方面的資料均呈明顯提高。2、成年人身體機能總體水準略有提高，但女性人群機能水準略有下降；同時成年人群力量素質有所降低。

關鍵字：寧夏，成年人體質監測，形態，機能，素質

Abstract

This paper by right 2005, 2010 Ningxia national adult fitness monitoring body shape, function, quality of some of the test indicators and their derived indicators, from the age trends and gender differences in levels were analyzed to describe an attempt to further reflect the Ningxia adult physiqustatus quo and variation. The conclusion drawn: 1. 2010 Ningxia Hui Autonomous Region adult population body length, circumference, or body weight data showed a significantly improved. 2. the overall level of adult physical function slightly improved, but the functional level of the female population declined slightly; the power quality of the adult population decreased.

Keywords: NingXia, Adult National Physical Fitness Surveillance, shape, Function, Quality

The background is a vibrant blue with a futuristic, digital aesthetic. It features several white-outlined hexagons of varying sizes, some of which are interconnected to form a honeycomb-like structure. Scattered throughout are small white squares and dots, reminiscent of a digital grid or data points. A prominent feature is a series of concentric, glowing white circles that create a sense of depth and focus. Additionally, there are several curved, glowing blue lines that sweep across the scene, adding a dynamic and energetic feel to the overall composition.

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