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References

Aktuell

Lin 2019

Wan-Yu Lin, Chang-Chuan Chan, Yu-Li Liu, Albert C. Yang, Shih-Jen Tsai & Po-Hsiu Kuo, *Performing different kinds of physical exercise differentially attenuates the genetic effects on obesity measures, Evidence from 18,424 Taiwan Biobank participants.* PLoS Genetics **15** (2019), e1008277. DOI:10.1371/journal.pgen.1008277.

Author summary The complex interplay of genetics and lifestyle makes obesity a challenging issue. Previous studies have found performing regular physical exercise could blunt the genetic effects on body mass index (BMI). However, BMI does not take into account lean body mass or identify central obesity. Moreover, it remains unclear what kinds of exercise could more effectively attenuate the genetic effects on obesity measures. With a sample of 18,424 unrelated Han Chinese adults, we comprehensively investigated gene-exercise interactions on 5 obesity measures: BMI, body fat percentage, waist circumference, hip circumference, and waist-to-hip ratio. Moreover, we tested whether the genetic effects on obesity measures could be modified by any of 18 kinds of self-reported regular exercise. Because no large genome-wide association studies on obesity have been done for Han Chinese, we constructed genetic risk scores with internal weights for analyses. Among these exercises, regular jogging consistently presented the strongest evidence to mitigate the genetic effects on all 5 obesity measures. Moreover, mountain climbing, walking, exercise walking, international standard dancing, and a longer practice of yoga attenuated the genetic effects on BMI. The benefits of regularly performing these 6 kinds of exercise are more impactful in subjects who are more predisposed to obesity.

Abstract Obesity is a worldwide health problem that is closely linked to many metabolic disorders. Regular physical exercise has been found to attenuate the genetic predisposition to obesity. However, it remains unknown what kinds of exercise can modify the genetic risk of obesity. This study included 18,424 unrelated Han Chinese adults aged 30–70 years who participated in the Taiwan Biobank (TWB). A total of 5 obesity measures were investigated here, including body mass index (BMI), body fat percentage (BFP), waist circumference (WC), hip circumference (HC), and waist-to-hip ratio (WHR). Because there have been no large genome-wide association studies on obesity for Han Chinese, we used the TWB internal weights to construct genetic risk scores (GRSs) for each obesity measure, and then test the significance of GRS-by-exercise interactions. The significance level throughout this work was set at 0.05/550 = 9.1x10-5 because a total of 550 tests were performed. Performing regular exercise was found to attenuate the genetic effects on 4 obesity measures, including BMI, BFP, WC, and HC. Among the 18 kinds of self-reported regular exercise, 6 mitigated the genetic effects on at least one obesity measure. Regular jogging blunted the genetic effects on BMI, BFP, and HC. Mountain climbing, walking, exercise walking, international standard dancing, and a longer practice of yoga also attenuated the genetic effects on BMI. Exercises such as cycling, stretching exercise, swimming, dance dance revolution, and qigong were not found to modify the genetic effects on any obesity measure. Across all 5 obesity measures, regular jogging consistently presented the most

significant interactions with GRSs. Our findings show that the genetic effects on obesity measures can be decreased to various extents by performing different kinds of exercise. The benefits of regular physical exercise are more impactful in subjects who are more predisposed to obesity.

Oransky 2019

Ivan Oransky, *Prof who lost emeritus status for views on race and intelligence has paper flagged.* Retraction Watch **2019**, Aug. 8. <http://retractionwatch.com/2019/08/08/prof-who-lost-emeritus-status-for-views-on-race-and-intelligence-has-paper-flagged/>.

There was no discussion of the correlation and causation, most notably between IQ and GDP. This has been an area of substantial discussion in the field, but this point is not sufficiently mentioned. Given the paper's overall content, we believe this topic should have been given more prominence.

The mainstream acceptance of the body of research presented has been overstated. While there are a significant number of scholars who support the research, the topic remains controversial and not accepted by a large proportion of the research community.

Bibel

Finkelstein 2011

Israel Finkelstein, *Jerusalem in the Iron Age: Archaeology and Text; Reality and Myth.* In: Katharina Galor & Gideon Avni (Hrsg.), *Unearthing Jerusalem, 150 years of archaeological research in the Holy City.* (Winona Lake 2011), 189–201.

Returning to the question posed at the beginning of this article: how did a remote, poor region on the southern fringe of the Levant emerge as the hub of a prosperous kingdom with a large capital? The answer lies in the geopolitics of the Levant. Judah could prosper only as a client-state of bigger powers. Judah and Jerusalem thrived in periods of cooperation with strong northern entities that balanced their natural weaknesses: Hazael of Damascus in the second half of the 9th century; Assyria in the days of Ahaz and Manasseh—-and, of course, Rome in the days of Herod the Great. In times when Judah was overtaken by fantasies of its own greatness, it was defeated and destroyed—-from the days of Hezekiah who rebelled against Sennacherib, to the Babylonian and Roman catastrophes.

In 2006, some two dozen contemporary archaeologists and historians met at Brown University, in Providence RI, to present papers and illustrations marking the 150th anniversary of modern archaeological exploration of the Holy City. The papers from that conference are published here.

The volume is heavily illustrated with materials from historical archives as well as from contemporary excavations. It provides a helpful and informative introduction to the history of the various national and religious organizations that have sponsored excavations in the Holy Land and Jerusalem in particular, as well as a summary of the current status of excavations in Jerusalem.

Kahn 2016

Dan'el Kahn, *Egypt and Assyria in Isaiah 11:11–16.* Journal of Ancient Egyptian Interconnections **12** (2016), 9–20.

In the following article I will deal with one of Isaiah's prophecies, Isaiah 11:11–16, whose date is debated. In this article, I will concur that the prophecy is not original to Isaiah, nor was there an early Isaianic core that was expanded in later periods. Other scholars suggested different dates for the prophecy, ranging from the reign of Josiah at the end of the Assyrian rule in the Levant until the Hasmonean Period. I will forward a different historical setting to the oracle than the hitherto given options. According to this understanding, the oracle was composed in the mid-7th century BCE and reflects the political situation during the reigns of Ashurbanipal, King of Assyria, and Manasseh, King of Judah, respectively.

Millek 2018

Jesse Michael Millek, *Destruction and the Fall of Egyptian Hegemony Over the Southern Levant*. Journal of Ancient Egyptian Interconnections **19** (2018), 1–21.

What brought about the end of Egyptian hegemony and the physical presence of Egyptians in the Late Bronze Age southern Levant? Several theories have been proposed in response to this question with two prominent theories taking center stage. One emphasizes the role of the Sea Peoples, whose path of destruction forced out the Egyptians. Another offers an answer closer to home with civil unrest in Canaan itself bringing about local uprisings against occupied Egyptian sites. What both have in common is that they rely on evidence from destruction events at sites with Egyptian-style architecture and Egyptian-style pottery. The aim of this article is to examine these destruction events, to identify their possible causes, and to ascertain which Egyptian sites did not suffer a destruction event before Egyptian occupation ceased at the site. As a result, it will be proposed that the destruction of Egyptian sites in the southern Levant was not the cause for the cessation of Egyptian hegemony over the southern Levant; rather, it was the pervasive political turmoil in Egypt during the Twentieth Dynasty that caused the Levantine region to be gradually abandoned by Egypt.

Otto 2019

Eckart Otto, *"You Shall Not Wear Clothes Made of Wool and Linen Woven Together" (Deut. 22:11), Clothing in Biblical Law*. In: Christoph Berner, Manuel Schäfer, Martin Schott, Sarah Schulz & Martina Weingärtner (Hrsg.), *Clothing and Nudity in the Hebrew Bible*. (London 2019), 323–330.

Leviticus 19:19 is the source text, while Deut. 22:9-11 is the adopting text, as the explanation of the Egyptian loanword štnz ("mixture of textiles") in Lev. 19:19 by ṣmr wpštym yḥdw ("wool and linen together") shows. Tue authors of the postexilic redactions in the book of Deuteronomy interpret Lev. 19:19 in Deut. 22:9-11. As Exod. 26:31; 28:6, 15 show, to wear garments made out of a mixture of threads is a privilege of the priests and is thus forbidden for the laity. Tue statute in Deut. 22:12 to make tassels on the four corners of one's cloak, which was not without parallels in ancient Near Eastern clothing, should be interpreted in connection with the prohibition of a mixture of wool and linen in the garment in Deut. 22: 11. Moreover, Deut. 22: 12 argues against the instruction in Num. 15:38 that the laity shall put a cord of blue on the tassels as sign of their holiness. The authors of the postexilic interpretation of Deuteronomy put the statutes of Deut. 22:11-12 in front of the Deuteronomic family laws in Deut. 22:13-29, which they supplemented with Deut. 23:1, in order to demonstrate that holiness is not only an outer matter of a sign on one's garment but also of obedience to the following laws. Tue profanation of the tassels of the knp ("corner of the garment") in Deut.

22:12 in favor of obedience to the law corresponds to the use of the term knp in the prohibition of incest in Deut. 23: 1: “No man is to take his father’s wife, so as to remove the corner of his father’s garment’ In this way, the motif of the knp serves as a frame for the Deuteronomic family law.

Energie

Tsuboi 2019

Seima Tsuboi, Shinji Miyokawa, Masayoshi Matsuda, Takeshi Yokomori & Norimasa Iida, *Influence of spark discharge characteristics on ignition and combustion process and the lean operation limit in a spark ignition engine*. Applied Energy **250** (2019), 617–632.

Highlights:

- Ignition and combustion process of a lean burn engine was investigated.
- A customized ignition system with 20 ignition coils was applied.
- Lean limit was extended to excess air ratio of 2.1 with a discharge interval.
- The longer discharge interval promoted the spark-shortening phenomena.
- Repetition of spark-shortening phenomena promoted the formation of flame kernel.

Lean combustion technologies have been investigated to decrease the heat loss of spark ignition engines. However, as the excess air ratio approaches the lean operation limit, the cycle-to-cycle variation of combustion becomes an obstacle to improving thermal efficiency. This paper discusses the influences of spark discharge characteristics, such as discharge current and spark-shortening phenomena, on the ignition and combustion process under lean conditions (excess air ratio (.) of 1.8–2.3) to suppress the cycle-to-cycle variation of combustion and extend the lean operation limit. In this study, a customized inductive ignition system equipped with 20 conventional ignition coils was applied to enhance the ignition energy. The discharge interval between each coil unit was controlled to change the discharge current and duration. The results show that the in-cylinder discharged energy increased with the discharge interval. The cycle-to-cycle variation of combustion was minimized when the discharge interval was 0.4 ms, and consequently, the lean operation limit was extended to an excess air ratio (.) of 2.1. The discharge waveforms indicated that the longer discharge interval could promote spark-shortening phenomena such as re-strike due to the lower discharge current. Finally, in-cylinder photographs of ignition and combustion process showed that the flame kernel formation could be promoted by the repetition of spark-shortening phenomena such as re-strike, as well as by the high elongation of the spark channel.

Keywords: SI combustion | Lean burn | Ignition | Flame kernel | Multiple spark discharge | Spark discharge energy

Judentum

Schütze 2016

Alexander Schütze, *The Standard of Living of the Judean Military Colony at Elephantine in Persian Period Egypt*. Journal of Ancient Egyptian Interconnections **12** (2016), 41–49.

The settlement of Judean military colonists at Elephantine island at the southern border of Egypt is by far the bestdocumented foreign community in this province of the Persian empire. The religious life of this military colony as well

as the tension between the Judeans and the priests of the local god Khnum culminating in the destruction of the local temple of Jahu at the end of the 5th century BCE have been in the focus of scholarly discussion for decades. Recent excavations at Elephantine Island and Syene (modern Aswan) indicate that the settlement of foreign colonists there was organized by the Persian administration including the creation of entirely new living quarters. Both the Aramaic papyri as well as the archaeological record provide deeper insights into the daily life and living conditions of these colonists. This paper discusses rations disbursed to military colonists at Elephantine as well as household sizes as proxies for the standard of living of the Judean settlers at Elephantine.

Klima

Cuthbert 2019

Mark O. Cuthbert & Richard G. Taylor et al., *Observed controls on resilience of groundwater to climate variability in sub-Saharan Africa.* nature **572** (2019), 230–234.

n572-0230-Supplement.pdf

Mark O. Cuthbert, Richard G. Taylor, Guillaume Favreau, Martin C. Todd, Mohammad Shamsudduha, Karen G. Villholth, Alan M. Macdonald, Bridget R. Scanlon, D. O. Valerie Kotchoni, Jean-Michel Vouillamoz, Fabrice M. A. Lawson, Philippe Armand Adjomayi, Japhet Kashaigili, David Seddon, James P. R. Sorensen, Girma Yimer Ebrahim, Michael Owor, Philip M. Nyenje, Yahaya Nazoumou, Ibrahim Goni, Boukari Issoufou Ousmane, Tenant Sibanda, Matthew J. Ascott, David M. J. Macdonald, William Agyekum, Youssouf Koussoubé, Heike Wanke, Hyungjun Kim, Yoshihide Wada, Min-Hui Lo, Taikan Oki & Neno Kukuric

Groundwater in sub-Saharan Africa supports livelihoods and poverty alleviation1,2, maintains vital ecosystems, and strongly influences terrestrial water and energy budgets3. Yet the hydrological processes that govern groundwater recharge and sustainability—and their sensitivity to climatic variability—are poorly constrained4,5. Given the absence of firm observational constraints, it remains to be seen whether model-based projections of decreased water resources in dry parts of the region4 are justified. Here we show, through analysis of multidecadal groundwater hydrographs across sub-Saharan Africa, that levels of aridity dictate the predominant recharge processes, whereas local hydrogeology influences the type and sensitivity of precipitation–recharge relationships. Recharge in some humid locations varies by as little as five per cent (by coefficient of variation) across a wide range of annual precipitation values. Other regions, by contrast, show roughly linear precipitation–recharge relationships, with precipitation thresholds (of roughly ten millimetres or less per day) governing the initiation of recharge. These thresholds tend to rise as aridity increases, and recharge in drylands is more episodic and increasingly dominated by focused recharge through losses from ephemeral overland flows. Extreme annual recharge is commonly associated with intense rainfall and flooding events, themselves often driven by large-scale climate controls. Intense precipitation, even during years of lower overall precipitation, produces some of the largest years of recharge in some dry subtropical locations. Our results therefore challenge the 'high certainty' consensus regarding decreasing water resources4 in such regions of sub-Saharan Africa. The potential resilience of groundwater to climate variability in many areas that is revealed by these precipitation–recharge relationships is essential for informing reliable predictions of climate-change impacts and adaptation strategies.

Healy 2019
Richard W. Healy, *Groundwater resilience in sub-Saharan Africa.* nature **572** (2019), 185–187.
An analysis of aquifer replenishment in sub-Saharan Africa shows that reduced precipitation does not always deplete groundwater reserves, challenging the idea that these reserves will decrease in response to global warming.
These results demonstrate a limitation of regional-scale assessments of the effects of climate change on groundwater resources, such as those published by the Intergovernmental Panel on Climate Change1. The large spatial scale of the climate-model predictions used in such assessments precludes a consideration of the variability and intensity of precipitation at the smaller scales that control aquifer replenishment in some environments. Cuthbert and colleagues' findings thus call into question previous conclusions, such as that "climate change is projected to reduce renewable surface water and groundwater resources significantly in most dry subtropical regions".

Metallzeiten

Al-Rawi 2014
F. N. H. Al-Rawi & A. R. George, *Back to the Cedar Forest, The Beginning and End of Tablet V of the Standard Babylonian Epic Of Gilgameš.* Journal of Cuneiform Studies **66** (2014), 69–90.
This long history of scholarship on the order and relationship of the fragments MSS H and AA provides a salutary lesson. The new manuscript presented here demonstrates that Smith's and Haupt's instincts were right, for it proves incontestably that the text of MS AA continues that of MS H ater a short gap, and that both are witnesses of cols. i and ii of Tablet V as it was known at Nineveh. It thus conirms what the fragment MS AA told Smith, Haupt, and Kinnier Wilson when they interpreted it as an archaeological object and identiied it as part of an obverse.
Understanding cuneiform tablets as archaeological objects is a practice that had few exponents for much of the twentieth century, when Assyriologists too oten gave all their attention to the inscribed text as a self-contained intellectual resource disembodied from the medium on which it was written.

Ngo 2019
Robin Ngo, *Ancient Clay Tablet Offers Insights into the Gilgamesh Epic, Gilgamesh tablet on display at the Sulaymaniyah Museum.* Bible History Daily **2019**, Aug. 4.
The previously available text made it clear that Gilgameš and Enkidu knew, even before they killed Humbaba, that what they were doing would anger the cosmic forces that governed the world, chiefly the god Enlil. Their reaction after the event is now tinged with a hint of guilty conscience, when Enkidu remarks ruefully that [...] "we have reduced the forest [to] a wasteland" (303). The anxiety about offending the gods seems to a modern reader compounded by ecological regret.