

## Miss Hong Kong Facial and Body Feature Changes Across Time and Social & Economic Conditions

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## Introduction

- Past research has investigated ideals of beauty and changes over time. Mazur (1986) investigated body measurements (chest, waist, hips) of *Playboy Playmates* and *Miss America* contest winners across time, identifying trends in body shapes. Singh (1993) reviewed these trends and reported that despite fluctuations, little variation occurs in the waist-to-hip ratio (WHR) of *Playboy Playmates* and *Miss America* winners. Other research has considered changes in cultural expectations of thinness in Hong Kong and the implications of these trends for eating disorders (Leung, Lam, & Sze, 2001).
- Pettijohn and Tesser (1999) found preferences for mature facial features in popular American actresses when social and economic conditions were threatening across time, although there was no systematic preference for actors (2003). Pettijohn and Jungeberg (2004) found facial and body feature preferences of *Playboy Playmates* of the Year were related to social and economic factors over time. Pettijohn and Yerkes (2004) found a trend for a thinner *Miss America* with a smaller BMI when times were bad, but no relationship between social and economic conditions and facial features.

## Environmental Security Hypothesis (Pettijohn & Tesser, 1999)

Proposes that exposure to threatening environmental conditions will cause people to show a relatively greater preference for individuals with mature features, as compared to preferences under less-threatening conditions

## Predictions

- The current study extends past research by considering beauty trends in a non-Western sample, *Miss Hong Kong*, and provides a theory to explain how social and economic conditions and time are related to preferences for certain facial and body features. This study also investigates the Westernization of *Miss Hong Kong*.
  - Specifically, we expected *Miss Hong Kong* to possess more mature facial and body feature measures during threatening social and economic times. Although we anticipated relationships consistent with the *Environmental Security Hypothesis*, we expected these outcomes to be attenuated due to a Westernization trend.
  - We expected *Miss Hong Kong* to become more Westernized in appearance over time - displaying larger eyes, a smaller chin, a thinner face, and a taller, thinner body.

## Data Collection (1973-2003)

- Hong Kong Social & Economic Statistics
  - Unemployment rate, consumer price index, death rate, birth rate, marriage rate, divorce rate, suicide rate, homicide rate
  - These measures were standardized and combined to create the *General Hard Times Measure* (larger values indicate more threatening social and economic conditions)
- Miss Hong Kong Features
  - Age, Facial Measures, Bust, Waist, Hips, Waist-to-Hip Ratio, Height, Weight, Body Mass Index

## Miss Hong Kong Facial Photographs Data Collection (1973-2003)



Winnie Chan  
1978

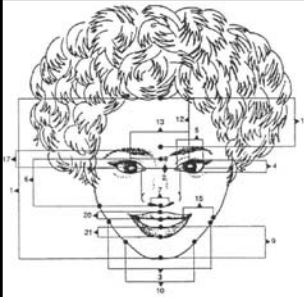


Robin Lee  
1986



Anne Heung  
1998

## Facial Feature Measurement



**Facial feature measurements.** (1) Length of face: distance from hairline to base of chin. (2) Width of face at cheekbones: distance between outer edges of cheekbones at most prominent point. (3) Width of face at mouth: distance between outer edges of cheeks at the level of the middle of the smile. (4) Eye height: distance from upper to lower edge of visible eye within eyelids at pupil center divided by length of face. (5) Eye width: distance from inner corner to outer corner of eye divided by width of face at cheekbones. (6) Nose length: measured distance from bridge at level of inner edge of upper eyelid to nose tip, at level of upper edge of nostril opening divided by length of face. (7) Nose tip width: width of protrusion at tip of nose divided by width of face at mouth. (8) Nostril width: width of nose at outer levels of nostrils at widest point divided by width of face at mouth. (9) Chin length: distance from upper edge of lower lip to base of chin divided by length of face. (10) Chin width: distance between edges of jaw measured at midpoint of chin length divided by length of face. (11) Forehead height: distance from eyebrow to hairline divided by length of face. (12) Vertical eye placement: vertical location of the eye measured from pupil center to hairline divided by length of face. (13) Horizontal eye separation: distance between pupil centers divided by width of face at cheekbones. (14) Cheekbone prominence: difference between the width of the face at the cheekbones and the width of the face at the mouth divided by length of face. (15) Chin thickness: measured width of cheek from inner corner of smile to outer edge of cheek divided by length of face. (16) Chin area: chin height ratio multiplied by chin width ratio. (17) Eyebrow height: measured from pupil center to lower edge of eyebrow divided by length of face. (18) Brow thickness: vertical thickness of eyebrow above pupil divided by length of face. (19) Facial narrowness: measured length of face divided by width of face at mouth. (20) Upper lip width: vertical distance at center divided by length of face. (21) Lower lip width: vertical distance at center divided by length of face. (22) Eye area: eye height ratio multiplied by eye width ratio. (23) Nose area: product of nose length and nose width at the tip divided by width of the face at the mouth.

Cunningham, M. R., Roberts, A. R., Barbee, A. P., Druen, P. B., & Wu, C. (1995). "Their ideas of beauty are, on the whole, the same as ours": Consistency and variability in the cross-cultural perception of female physical attractiveness. *Journal of Personality and Social Psychology*, 68, 261-279.

## General Hard Times Measure and MHK Facial Feature Correlations

Feature	r
Eye Height	.288*
Eye Width	.419***
Eye Area	.413***
Vertical Eye Placement	.478***
Facial Narrowness	.385**
Nose Length	.395**
Nose Area	-.165
Chin Length	-.351**
Chin Width	-.305**
Chin Area	-.339**

N=31 years. \*= $p < .10$ , \*\*= $p < .05$ , \*\*\*= $p < .01$ . All tests were one-tailed.

## General Hard Times Measure and MHK Body Features Correlations

Feature	r	df
Age	.317**	29
Waist	-.291	15
Height	-.020	29
Weight	-.259*	28
Bust	.113	15
Waist-to-hip Ratio	-.106	15
Body Mass Index	-.409**	28

\*= $p < .10$ , \*\*= $p < .05$

Different df reported due to unavailability of data for some years

## Time and MHK Facial Feature Correlations

Feature	r
Eye Height	.135
Eye Width	.323**
Eye Area	.258*
Vertical Eye Placement	.398**
Facial Narrowness	.371**
Nose Length	.435***
Nose Area	.113
Chin Length	-.379**
Chin Width	-.409***
Chin Area	-.419***
Eyebrow Height	-.305**

N=31 years. \*= $p < .10$ , \*\*= $p < .05$ , \*\*\*= $p < .01$ . All tests were one-tailed.

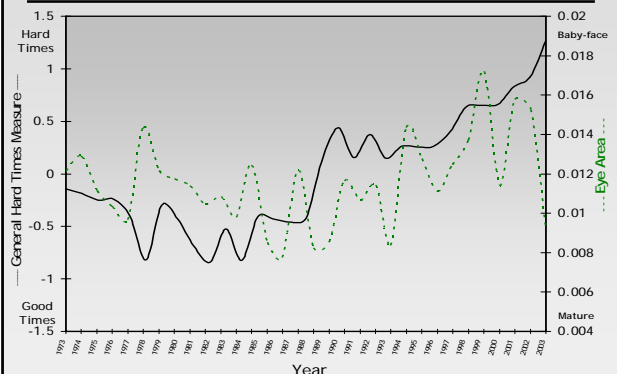
## Time and MHK Body Feature Correlations

Feature	r	df
Age	.466***	30
Waist	-.146	16
Height	.162	30
Weight	-.104	29
Bust	-.223	16
Waist-to-hip Ratio	.050	16
Body Mass Index	-.312**	29

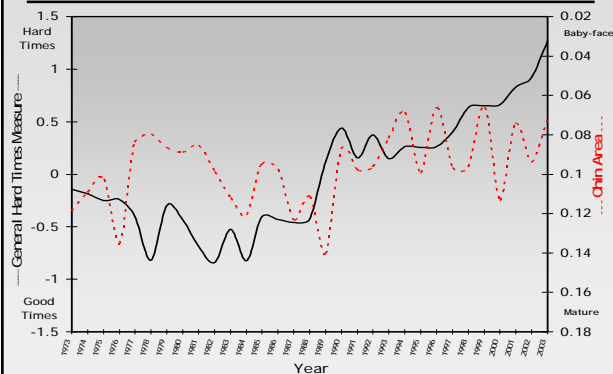
\*= $p < .10$ , \*\*= $p < .05$

Different df reported due to unavailability of data for some years

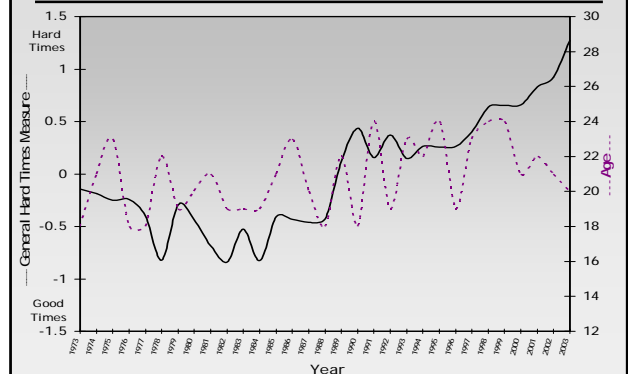
## General Hard Times Measure and MHK Eye Area Changes Across Time



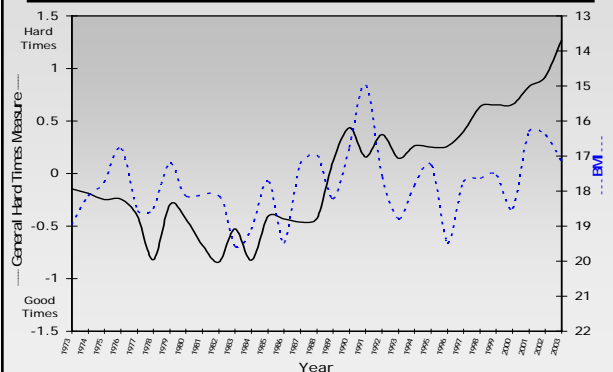
## General Hard Times Measure and MHK Chin Area Changes Across Time



## General Hard Times Measure and MHK Age Changes Across Time



## General Hard Times Measure and MHK BMI Changes Across Time



## Discussion

- Overall, in difficult social and economic conditions, Miss Hong Kong pageant winners were relatively older with smaller body mass indexes, smaller chins, larger eyes, narrower faces, and larger noses. The BMI, chin size, and eye size measures were actually opposite the predictions derived from the *Environmental Security Hypothesis*.
- When time is controlled for, the relationships between social and economic conditions and MHK features are diminished. This suggests that changes in time, which could be explained by a Westernization trend, are more important than social and economic conditions in determining preferences.
- Over time, MHK has adopted a more Western ideal of beauty as her body mass index and chin size have decreased and her eye size, narrowness of her face, and nose size have increased.

## Conclusion

- Although correlational, these results suggest that environmental security may influence perceptions and preferences for MHK with certain body and facial features and it also shows the Westernization of beauty ideals in Hong Kong over time.
- Results of this research offer new insight into perceptions and trends of beauty, and human facial and body feature preferences across cultures and time.

## References

- Leung, F., Lam, S., & Sze, S. (2001). Cultural expectations of thinness in Chinese women. *Eating Disorders, 9*, 339-350.
- Mazur, A. (1986). U.S. trends in feminine beauty and overadaptation. *The Journal of Sex Research, 22*, 281-303.
- Pettijohn, T. F. II, & Tesser, A. (1999). An investigation of popularity in environmental context: Facial feature assessment of American movie actresses. *Media Psychology, 1*, 229-247.
- Pettijohn, T. F. II, & Tesser, A. (2003). History and facial features: The eyes have it for actresses but not for actors. *North American Journal of Psychology, 5* (3), 335-344.
- Pettijohn, T. F. II, & Jungeberg, B. (2004). Playboy Playmate Curves: Changes in facial and body feature preferences across U.S. social and economic conditions. *Personality and Social Psychology Bulletin, 30*, 1186-1197.
- Pettijohn, T. F. II, & Yerkes, M. (2004, May). Miss America facial and body feature changes across social and economic conditions. Poster presented at the 16<sup>th</sup> Annual American Psychological Society Convention, Chicago, Illinois.