青少年的網路自拍照片之內容分析
A Content Analysis of Teenagers' Self-Portraits Online

王映涵 Yin-han Wang

Department of Media and Communications, London School of Economics, UK

Email: y.wang26@lse.ac.uk

摘要

近年越來越多的研究開始關注青少年如何在社交網站上創作數位內容，以表達自我與探索自我認同。然而多數此類研究皆分析文字面向（例：社交名片），而忽略了視覺、影像創作的面向（例如自拍照片）。在台灣，儘管網路自拍非常普及於青少年，但社交網站上的自拍在大眾想像中經常不脫女生的清涼照或是「裝可愛」自拍照。本研究目的在於豐富我們對於青少年數位影像內容創作的知識，檢視青少年實際的自拍照是否真如同通俗媒體所報導的那般羶腥色，並且了解青少年在網上分享個人資訊的比例。本研究從無名小站上隨機選取兩千張十二到十八歲青少年的自拍照，以內容分析法系統性地分析，目的為檢視青少年再現自己的方式是否服膺性別刻板印象。研究發現 Goffman(1979)所稱「高度儀式化的性別表現」明顯存在，並且與廣告經常再現的刻板性別形象相符。然而，也有一大部分的青少年的自拍超越此種女性–孩童或男性–冷酷的性別分界。此外，以情色方式再現自己的自拍照並不如媒體所渲染的那般普及。最後，年幼的青少年（特別是男孩）較常分享個人資料。本研究期望能豐富台灣學界對本國青少年自拍照片的理解，同時增進台灣的青少年網路研究在英語學術文獻的能見度。

關鍵字：自拍、數位內容創作、社交網站、青少年、性別刻板印象、內容分析法。

Abstract

While a fast growing studies has contributed to the understanding of how teenagers create digital content creation on Social Networking Sites for self-expression and identity exploration, a majority of them rely on the verbal as foci of data without attending to the richness and diversity of visual features (e.g. 'profile skin', identifying photo). In Taiwan, reference to self-portraiture on social networking sites -- a practice common to teenagers – often evokes in popular imagination girls' soft-porn and/or hyper-cute self-representation. This study seeks to enrich the scholarly knowledge of teens' visual digital content, and explores how teenagers *actually* represent themselves against the popular media hype. It also examines to what extent teenagers reveal identifiable personal information in their profiles, an act that begets much concern from parents, scholars and policy-makers. The author conducted a content analysis of 2000 randomly selected self-portraits of 200 Taiwanese teenage girls and boys aged 12-18 posted on the highly popular SNS *Wretch,* the purpose was to examine the presence (or absence) of traits of gender stereotypes in teenagers self-portraits online. The study finds that the performance of what Goffman (1979) described as 'hyper-ritualized gender acts' is prominent and is consistent with patterns of representation reported for advertisements. However, another large number of teenagers' self-portraits do not fall in the feminine-childlike or masculine-cool categories. Worth-noting is that the presentation of oneself in sexual manners is not as widespread as the media hype and moral panics claim. Finally, the examination of teenagers whose profiles are open to public reveals that younger teenagers and boys were the groups more likely to disclose personal information. This study seeks to contribute to both local knowledge of Taiwanese teenagers' self-portraiture as well as international literature on teens' digital content creation.

Keywords: Self-portrait, digital content creation, social networking site, teenager, gender stereotype, content analysis.

Introduction
In the past five years or so, a fast growing literature has contributed to our understanding of the relatively new phenomenon of digital content creation on Social Networking Sites (hereafter SNS). Scholars who are eager to find out what sort of digital contents youth create on SNS have frequently adopted content analysis to examine the SNS profiles (Hinduja & Patchin, 2007; Jones, Millermaier, Goya-Martinez & Schuler, 2009; Moreno et al., 2009). Other studies in digital content creation have also looked at young people blogs (Huffaker & Calvert, 2005), personal homepages (Stern, 2002), instant messaging (Stern, 2007), guestbook (Enochsson, 2007), the use of Avatar (Thomas, 2007). Yet, despite the vigor in this new area of interest, a majority of the studies rely on the verbal as foci of data without sufficient attention to the richness and diversity that visual features (e.g. 'profile skin', identifying photo) have to offer.

When I mention to my Taiwanese friends that my research is about teenage girls' self-portraiture on Wretch, I usually receive one of two common responses: the (feigned) excitement of males saying: 'Oh, do you need a research assistant?', or a dismissive tone asking 'you mean the photos in which girls "play cute" but look quite pretentious?'. While such responses, of course, only describe certain style of this photographic self-representation, it points out that self-portrait is, in popular imagination, often associated with soft-porn and/or hyper-cuteness. These two stereotypes were the starting point of my inquiry: With the digital means for self-representation, why do some girls and women choose to portray themselves in ways that conform to popular stereotypical gender representations? Underlying this question is the assumption that self-representation with digital media has the potential to 'be used as a tool for the fostering of agency' (Lundby, 2008, p. 7), and to challenge top-down institutional representations.

In order to fathom the popularity of sexual and/or cute self-portraiture among teenage girls, it seemed to me that a point of reference was necessary to facilitate the evaluation of whether such representational styles were really specific to girls, or they were also favored by their counterparts -- teenage boys. To test whether the assumption that cute/sexual self-portraiture were really 'a girl thing', I conducted a content analysis of the self-portraits of Taiwanese teenagers on the highly popular SNS Wretch with the goal of examining the presence (or absence) of traits of gender stereotypes in teenagers photographic self-portraits. As the existing literature on SNS does not yet offered a useful framework for the analysis of images, the theoretical basis for the content analysis will draw upon the scholarship on sex role stereotyping in media content, especially (print) advertisements, for advertisements and self-portraits share the same quality of being still images, thus better facilitate the adaptation of analytic strategies from the former to the latter. Analysis of the visual portrayal of gender in media abounds both in English-language and Taiwanese literature. Some scholars examine the roles and activities, while others use the manifest details such as facial and/or body language to uncover the implied meanings of gender relations. As the present study is interested in physical features such as facial expressions, hand movements, body poses, modes of dress, and revealed body parts, the following discussion will draw upon analyses of advertisements that specifically examine these aspects of gender representations. It is believed that understanding the stereotypical gender ideals expressed in the media, and the latent social meanings carried through those codes of representation provides insight into how teenagers may wish to be seen through their practice of self-representation.

Gender Stereotypes

Stereotypes are more than labels; they are 'assumptions about traits and behaviors that people in the labeled categories are thought to possess' (Kite, Deaux & Haines, 2008, p. 206). Stereotypes are shortcuts to quickly getting the message across and are therefore commonly adopted in media messages such as advertisements so as to leave an impression on the audiences. If we dissect this very broad concept of gender stereotypes, we have the following main subtypes: roles (including occupational and family roles), ideologies (e.g. chauvinism), physical attributes (e.g. beautiful, sturdy), behaviors (graceful, boorish), relations (e.g. dominant, submissive), mode of dress (e.g. skirt, pants), sexuality-related category (e.g. sexy, macho) and emotions (Bem, 1995; Carpenter and Trentman, 1998; Kite et al., 2008).

In every society, there are cultural expectations regarding appropriate gender behaviors. An expression that anyone growing up under the exposure of traditional Chinese values would have heard is 'men take charge of the external, women take charge of the internal'. This age-old saying implies that the associated ideal gender qualities are: men being the extroverted, independent, assertive and competitive ones working outside, while women are the introverted, dependent, and tender ones staying at home. Stereotypes regarding women and men fall into two broad dimensions: women have expressive characteristics such as being caring, emotional, and understanding, whereas men have agentic characteristics like being assertive, competitive, and controlling (Kite et al., 2008). Interestingly, it is believed that women, more than men, have a broader range of experiences with emotions, and that displaying emotions through facial or body language is considered tightly knit with femininity. Emotions often associated with women include happiness, shyness, fear, and sadness. The only three emotions firmly tied with men are strong emotions such as anger, contempt and pride (Plant, Hyde, Keltner, & Devine, 2000; Algoe, 2000).

In the 80s, a plethora of quantitative research emerged, using the method of content analysis to investigate the portrayal of gender roles in media content such as television series and advertisements. Gill's (2007) summary of studies on advertisements in the US and UK show that women are more often depicted as attractive, in domestic roles promoting household or personal products, while men on the contrary are portrayed as authoritative, functioning in a wider variety of occupational roles and promoting higher-priced products such as cars (see Dominick and Rauch, 1972). The same tendency is observed in Taiwanese advertisements, in which women are mostly given decorative or objectified roles (Chang, 1994; Wu & Chen, 2007); in addition, the female characters are often represented as either the 'innocent girl'— sweet, non-threatening, incapable of self-defence, pure, weak, shy and tender—, or, in stark contrast, the 'sexy beauty' who is confident, mature and sexy (Gu, 1995). The analysis of cultural values in advertisements conducted by Leiss, Klein and Jhally (1997) further found that advertisements for women tend to use more codes for beauty, family, and romance, while those aimed at men use more codes of ruggedness and fraternity.

Looking closely at the more minute gender-relevant cues such as facial expressions, body postures and hand movements in the visual compositions of advertisements, Erving Goffman (1979) studied in his landmark work *Gender Advertisements* how advertisers use cultural ideas of genders in social interaction to construct commercial realism. He refers to the contrived postures and props in advertisements as the 'institutionalized arrangements in social life' (p. 23) which function as shortcuts to evoke realism for the viewers and reflect advertisers' positions on 'how women can be profitably pictured (p. 25)'. Goffman

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purposely collected from magazines and newspapers advertisements showing the interaction of men and women. He sought not to discover the commonality nor the accepted differences but the subtle, ritualized behaviors which present to us 'an ideal conception of the two sexes and their structural relationship to each other' (p. 84).

Goffman usefully categorizes the displays of gender acts into six groups: (1) relative size: women tend to be portrayed as shorter, smaller or lower than men, with the only exception when women have higher social status than men; (2) The feminine touch: women are shown more often caressing the surface of objects, cradling objects or touching themselves, whereas men are shown manipulating objects; (3) function ranking: men tend to be depicted in executive (superior) roles or, when co-present with women, as the more functional one; (4) The ritualization of subordination: women tend to be shown smiling, lying on beds or floors, or in deferential body postures such as body canting or childish poses; (5) licensed Withdrawal: women are portrayed as psychologically 'floating' out of the scene or covering their faces (6) the family: women are depicted as mothers or caretakers, and mostly seen related to daughters.

Goffman's sampling methodology may seem problematic to some critics. Justifying his non-random sampling method, he asserted that although these pictures were not representative of gender behavior in any given publication, advertisements in general or the real world, these pictures were nonetheless what seem to be natural, taken-for granted for the ordinary viewer. So if one wonders the merit of analyzing such non-peculiar pictures, Goffman cogently suggests that one only needed to '[imagine] the sexes switched and [imagine] the appearance of what results, one can jar oneself into awareness of stereotypes' (p. 25). He then concludes that '…advertisers conventionalize our conventions, stylize what is already a stylization, and make frivolous use of what is already something considerably cut off from contextual controls. Their hype is hyper-ritualization' (p. 84). Goffman's conceptual categories are still provocative and have been adopted/adapted in many other studies of gender representation. In a conceptual replication of Goffman's analysis, Belknap and Leonard II (1991) coded over 1000 advertisements appearing in an issue of six general-interest and special-interest magazines in 1985. Their findings reveal a frequent occurrence of feminine touch and acts of female subordination, followed by a somewhat frequent occurrence of women's licensed withdrawal. Paradoxically, the occurrence of men engaging in 'feminine touch' seems to suggest that male stereotyping is in decrease. Yet, no decline in female stereotyping was observed.

A perusal of literature on the stereotypical gender representation in advertisements shows that there appears to be a universal consensus regarding the appropriate traits ascribed to women and men as two relatively distinct groups. But within this overarching agreement, cultural variations in specific stereotypical views exist. For example, Asian societies, when compared to Western societies, organize on a more rigid gender division. The comparative study undertook by Maynard & Taylor (1999) investigates the variability of 'girlishness' in *Seventeen* magazine advertisements in Japan and the U.S. They defined 'girlish' as: 'a socially constructed, often playful childlike pose, spoken or acted out, that explicitly displays the vulnerability of approval seeking' (p. 40), and found that American advertisements sent mixed message to girls—sometimes girls were portrayed as girlish but most of the time they were not. Japanese advertisements, on the contrary, were frequent and consistent in the portrayal of girlish images, representing girls as delicate, non-aggressive, cute, playful and childlike. A recent comparative study by Frith, Shaw & Cheng (2005) confirm that while advertisements from the U.S. contain more sexual portrayal of women, advertisements from Singapore and Taiwan depict women in more

demure way. In particular, Taiwanese advertisements have a higher percentage of 'cute/girl next door' type (p. 66), an image that conforms to Taiwanese stereotype of ideal women with fair (white) skin, smooth long hair, a slender body, fashionable outfits, natural-looking make-up also reported in Sun and Shaw (2003).

Media Effects?
Asserting for the potential negative effects of stereotypical media portrayal on girls is simple; however, determining whether such effects do exist is no easy task. First of all, it is impossible to demonstrate a direct causal relation between media exposure and acceptance of gender stereotypes-- lab experiments in which other factors are controlled are hard to generalize, and long-term studies cannot pinpoint whether the media is the determining agent among others, such as family, peers, schools, social-cultural contexts, etc., that leads to strong beliefs in gender stereotypes (Kite et al., 2008; Reid et al., 2008). Secondly, studies that examine the correlation between media exposure and beliefs in gender stereotypes often yield contradictory results. Some have found positive correlation (e.g. Huston et al. 1992; Morgan & Shanahan, 1997; Ward & Harrison, 2005; Tiggermann, 2006; Chang, 1998), while others found only certain specific media contents, such as music videos (Borzekowskia, Robinson & Killen, 2000) are correlated for some, for example girls with low social support (Stice, Spangler & Agra, 2001)—a conclusion familiar to the consensus that 'the media do harm some children, in some ways, under certain conditions' (Livingstone, 2007, p.5).

Holmstrom (2004) usefully summarizes three theoretical backdrops against which studies use to explain potential media effects on girls' body image: Festinger's social comparison theory, Gerbner's cultivation, and Bandura's social cognitive theory. Noting that inconsistencies in various methodological choices such as definition of 'body image', types and length of media exposure, types of research design, age of participants, and stimuli used in experimental studies may result in different, conflicting empirical findings on media effects, she conducted a meta-analytical reviews of these studies and found a very small relation on media and body image, suggesting that the media portrayal of ideal thin body image may have little to no effect on female audiences.

As illustrated above, determining media effects can be a complicated task that requires a careful dissection of multiple factors that might be at play. Rather than fixating scholarly attention on the question of effects, it might be more fruitful to ask, as Livingstone (2007) proposes: 'in what way and to what extent do the media images contribute, if at all, as one among several identifiable factors that, in combination, account for the social phenomenon under consideration' (p. 11). Various scholars have, based on their recent works with young people, argued against seeing the media from positive or negative binaries and unquestionably assuming the media's effects; alternatively they advocate the media's role as cultural resources from which young people draw intertexual elements from different media contents for their ongoing process of constructing identities. For instance, in Buckingham and Bragg (2003)'s study with 120 young people aged from 9 to 17, they found that for some, the media actually function as resources from which youth draw *categories of self-definition around which to mobilize and negotiate, to claim as their own or disrupt'* (71). Similarly, Nayak & Kehily (2008) suggest the magazines to be something that youth could *'talk with'* and *'think with'* (135). Brown (2005) also finds that early maturing girls may use the media as 'substitute sexual super' (p. 421) to learn about sexual information that is otherwise not available in their peer groups.

This intertextual cross-referencing and use of media content is especially noticeable in youthful online production. Chandler and Young (1998) borrow Levi-Strauss's notion of

bricolage to describe youthful homepage production, arguing that it is through the interaction—'inclusion, allusion, omission, adaptation and arrangement'—with cultural elements in the media that one constructs and reflects the identity. Weber and Mitchell (2008) coin the term 'identities-in-action' to describe that *'like digital cultural production, identity processes are multifaceted and in flux, incorporating old and new images'* (27). This notion of 'identities-in-action' echoes neatly to Coleman's (2008) argument about seeing girls' bodies as 'becoming' rather than a pre-existing being separate from the surroundings. She argues against using media effects to examine the relation between girls' bodies and media images for 'effects' imply a binary opposition between the two as if they are 'subjects and objects which exist prior to their relationality' (p. 164), when in fact they are two co-existing entities whose relations are intertwined and that 'bodies are experienced *through* images' (ibid.). As a result, she suggests that a productive thread of inquiry for feminist research, or indeed any research interested in the media effects and the bodies, should shift focus onto how the experiences with media images 'limit or extend the possibilities of becomings [of bodies]' (p. 175), so the inquiry does not stop at the point of deciding on negative media effects when it should be where analysis begins.

The purpose of this study is not to argue whether or not the resemblance of teenagers' self-portraits and the stereotypical gender representations in advertisements is results of media effects. Such effects are impossible to gauge merely through the textual analysis of self-portraits, and it may not be a constructive question to ask, as media images are rarely consumed and reproduced by teenagers straight off the shelf without individual interpretation and/or appropriation taking into account the influence of specific macro, meso and micro factors. Therefore, this study asks what the conventional representation codes that teenagers adopt/appropriate are, and what the deliberate or unintentional use of representational codes might say about how teenagers wish to present themselves and how they like to be seen on their social-networking space.

Hypotheses
Based on the above review of extant literature of stereotypical gender traits and stereotypical media representations of gender, the following hypotheses were formed:

• In teenager's self-portraits, in terms of mouth area movement, facial expression, hand movements, and body poses, the stereotypical feminine codes would be more pronounced in girls' photos, and masculine codes would be more pronounced in boys' photos.

• In terms of mode of dress and revealed body parts, girls would highlight certain body parts (breasts, hips, thighs) more to suggest sexuality more frequently than boys; and boys would exhibit less indecent mode of dress than girls do.

Method
Coding Procedure
This study used Wretch Album (www.wretch.cc/album) as the portal site for data collection in December 2008. The goal was to randomly collect 10 self-portraits from the randomly selected Wretch Albums of 100 teenage girls and 100 teenage boys aged 12-18. The final sample composed of 1000 self-portraits of girls' and another 1000 self-portraits of boys, making the total number of self-portraits examined in this study equal to 2000.

First I selected to view the category 'girls' personal photos' on Wretch Album front page. Then from the 500 public albums Wretch featured on the front page everyday under the 'hot' condition, I clicked on album whose cover photo was a self-portrait to enter the album.

Firstly, I checked if more than ten self-portraits were present in the album, if not, the album was discarded. If so, I then looked whether there were verbal or visual cues that stated owner's age explicitly (e.g., "I'm really only 15 years old") or implicitly (e.g., wearing high school uniform). Once album owner's age was initially determined as falling within the 12-18 year age boundaries, I looked in the owner's Wretch space for another implicit clue that confirms her age status. Albums that passed both 'tests' were included in the sampling population. I continued collecting albums for five days, then from the final list of sampling population, the research randomly selected 50 albums as the final sample. The same procedure was repeated to select 50 more girls' albums from the 'random' condition, and ditto to collect boys' albums.

Secondly, once I had randomly sampled 'hot' albums of 50 girls and 50 boys (100 albums in total), and 'random' albums of 50 girls and 50 boys (100 albums in total), I randomly selected from each individual album ten self-portraits, thus yielding a total of 2000 self-portraits in the total sample for analysis, with 1000 from girls and another 1000 from boys. Since it is currently impossible to identify the complete population of self-portrait albums created by young people on Wretch, it remains unknown what percentage the sample comprised of all self-portrait albums. In addition, the criteria with which Wretch used to categorize albums into 'hot' or 'random' condition was proprietary (the only hint was that the more often one updates albums, the more likely albums would be selected in that daily 500 list). Therefore there is insufficient evidence to claim that the findings could be generalized to the larger population of Taiwanese teenagers' self-portraits, both on Wretch or in other photo-sharing SNS.

Over 10,000 albums were examined to find albums that fell into the target age group. The final sample characteristics are as follows:

Age: 12-15 years (n=35; F=26, M=9), 16-18 years (n=165; F=74, M=91);
Gender: Boys (n=1000), Girls (n=1000);
Condition in which album is selected: Hot (n= 500), random (n= 500).

Coding Instrument
I developed a coding instrument to account for 1) the disclosure of *personal information* such as name, school and contact information in teenagers' Wretch space; and 2) representational styles of *self-portraits* in terms of six descriptive dimensions: mouth area movement, facial expression, hand movement, body posture, mode of dress, and revealed body parts[1]. The categories were developed by incorporating Goffman's analytical items into categories establish by inductive observation of self-portraits on Wretch that are outside the sample.

• *Facial expressions*: This category examined whether girls were more likely to show the stereotypically feminine cute/vulnerable look with childlike pouting and/or big, rounded eyes; making mischievous faces, or even put on a sexy look; and whether boys were more likely to show the stereotypically masculine look of appearing cool or even fierce. It should be emphasized that the coding's intention was not (nor was it possible) to identify and categorize *all* facial expressions, but to categorize only those pertinent to the research purpose (i.e. those fall into the stereotypical feminine and masculine), hence, non-stereotypical facial expressions were coded into the category of 'others'.

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[1] See Appendix for detailed operational definitions of the categories.

- *Mouth area movement*: The purpose of this category was to see whether girls demonstrate more varieties of mouth area movement, such as the childlike pouting/ puckering, the friendly bright smile or laughter; and whether boys have less degree of lips movement such as no movement at all, lips parted with an expressionless look, or reserved, controlled smile.

- *Hand/Finger movement*: The category set out to examine whether the self-touching and soft-touch associated with femininity and utilitarian touch associated with masculinity were manifest in girls' and boys' self-portraits as Goffman observed.

- *Body pose*: This category examined whether the feminine body canting, space-reducing poses, or sexual body language were more common to girls, while the body-flexing and space-occupying poses were more common to boys.

- *Mode of dress & Revealed body parts*: These two categories sought to find out whether girls were more likely than boys to represent herself in sexy manners through the wearing of suggestive mode of dress and revealing more 'skin'.

I coded all the photos. A second coder, who shared similar cultural framework of interpretation but is of the opposite sex (a male Taiwanese postgraduate student), was hired to code 10% of the total sample (200 photos) to ensure that the coding was conducted with minimum level of subjective interpretation and yet still reflect common cultural interpretation. The second coder was trained on self-portraits collected on Wretch outside the actual sample until inter-coder reliabilities, calculated using Krippendorf alpha, reached above 0.80 for all variables. The second coder then went on to code the 10% self-portraits taken from the total sample. Coding were conducted and completed over a three-month period in March to May 2009. The inter-coder reliabilities were all above 0.80 for all variables [2].

Findings
The first section is an examination of personal information disclosed in the sampled teenagers' Wretch space. Association between gender, age and the coded variables is examined using Pearson Chi-square test of independence.

A. Personal Information

In the U.S., where popular social networking sites such as MySpace and Facebook originated, there has been much concern from scholars, parents, educators and police force over teenager's disclosure of personal identifying information that might make them vulnerable to various forms of online victimization such as unwanted stranger contact or harassment (Hinduja and Patchin, 2007). This issue of teenagers' privacy control on social networking site remains under-researched to date in Taiwan. While this is not the main purpose of the study, since part of the sampling procedure involves scrutinizing teenagers' profiles, the study also assessed how much personal information is posted on teenagers' publicly viewable pages (i.e. profile, blog and album pages).

Table 1

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[2] The alpha value was 0. 93 for mouth area movement, 0.94 for facial expression, 0.97 for hand movement, 0.94 for body posture, 0.91 for mode of dress, and 0. 96 for revealed body parts.

Disclosure of Personal Information (in percentage)

	Girls			Boys			12-15	16-18	All	N=
	All	12-15	16-18	All	12-15	16-18				
Full name										
Disclosed	2.0	7.7	0	8.0	11.1	7.7	8.6	4.2	5.0	10
School										
Disclosed	58.0	65.4	55.4	63.0	55.6	63.7	62.9	60.0	60.5	121
Electronic contacts										
Not provided	67.0	61.5	68.9	54.0	33.3	56	54.3	61.8	60.5	121
IM	10.0	11.5	9.5	14.0	11.1	14.3	11.4	12.1	12.0	24
Email	13.0	11.5	13.5	17.0	55.6	13.2	22.9	13.3	15.0	30
Both	10.0	15.4	8.1	15.0	0	16.5	11.4	12.7	12.5	25
N=	100	26	74	100	9	91	35	165	200	200

Note: Comparison categories: Name— not disclosed, School— not disclosed.

1. Full name
Almost all users sampled (95 %) did not disclose their full names anywhere in the profile or the album sampled. Only ten users (5 %) — two girls and one boy aged 12-15, and seven boys aged 16-18 — had their names disclosed. So, there were more boys disclosing their names than girls (8% vs. 2%).

Comparing within gender groups, girls of 12-15 year olds were significantly more likely to disclose their names than girls of 16-18 year olds (7.7% vs. 0%; $p<0.05$), whereas the difference between boys was small and not significant —11.1% of 12-15 year olds compared with 7.7% of 16-18 year olds.

Comparing within age groups, older boys were significantly more likely to disclose their names than older girls (7.7% vs. 0%; $p<0.05$). Slightly more younger boys had names disclosed than younger girls (11.1% vs. 7.7%), but the difference was not significant.

2. School
Over half (60.5 %) of the users sampled disclosed the schools that they had attended/ currently attending. Boys (63%) gave out school information slightly more often than girls (58%), but the difference was not significant. Interestingly, more younger girls (65.4%) gave out school information than older girls (55.4%), whereas less younger boy (55.6%) do so compared with older boys (63.7%). But both differences were not significant.

3. Electronic contact info
The majority of users (60.5 %) did not provide any sort of contact information, while 12% gave out their Instant Messaging account, 15% gave their Email address, and another 12.5% gave both IM and Email address. None had given their mobile phone number. A higher percentage of boys of both age groups provided electronic contact information than

their female counterparts in the same age groups. Yet the differences were not significant.

B. <u>Teenagers' Self-Portraits Posted in Albums</u>

This section presents the results of the content analysis of 2000 self-portraits of the sampled 100 girls and 100 boys. It should be noted that, since ten photos are randomly selected from each individual, the total sampled photos are not entirely independent from each other, thus precludes the possibility of conducting inferential statistics. The results below are descriptive statistics:

1. Mouth area movements:

Table 2

Mouth Area Movements (in percentage)

	Girls			Boys			12-15	16-18	All	N=
	All	12-15	16-18	All	12-15	16-18				
Puckered/Pouted	32.9	36.5	31.6	11.1	15.6	10.7	31.1	20.1	22	440
Sensuous moves	1.0	1.2	0.9	0.7	0	0.8	0.9	0.8	0.8	17
Lips parted no smile	5.0	7.7	4.1	9.2	7.8	9.3	7.7	7	7.1	142
Reserved smile	30.2	21.2	33.4	16.7	20.1	19.8	20	26.1	25.0	500
Bright smile	8.0	4.2	9.3	3.4	2.2	3.5	3.7	6.1	5.7	114
Lips pressed together flatly	6.5	11.9	4.6	6.5	13.3	5.8	12.3	5.3	6.5	130
Lips lowered	0.3	0	0.4	1.7	4.4	1.4	1.1	1.0	1.0	20
Mouth wide open	0.9	0.8	0.9	2.2	0	2.4	0.6	1.8	1.6	31
Other than above	0.3	0.4	0.3	1.2	1.1	1.2	0.6	0.8	0.8	15
No movement	7.5	7.3	7.6	34.3	34.4	34.3	14.3	22.3	20.9	418
N/A	7.4	8.8	6.9	9.9	4.4	10.4	7.7	8.8	8.6	173
N=	1000	260	740	1000	90	910	350	1650	2000	2000

As Table 2 shows, the most common mouth area movement is smirk/faint smile, with just over a quarter of the photos showing such move. Lips puckering/pouting (22%) and no particular movement (20.9%) are, respectively, the second and third most common movements. Other mouth area movements displayed were 'parted lips without smile' (7.1%), lips pressed together flatly (6.5%) and bright smile (5.7%). Very few—less than two percent—of the photos showed subjects with mouth wide open (1.6%), or lips lowered (1%). The instances of photos depicting the subjects 'sensuous moves' were also very rare (0.8%).

In terms of gender and age differences, girls' photos outnumbered boys' in mouth area movements associated with girlishness or femininity, such as puckering/pouting (32.9% vs. 11.1%), reserved smile (30.2% vs. 19.8%), and bright smile (8% vs. 3.4%). While more photos of younger girls depicted the girls puckering/pouting than older girls (36.5% vs. 31.6%), there were more photos of older girls showing reserved smile or bright smile

(33.4% vs. 21.2%; 9.3% vs. 4.2%). On the other hand, one in three boys' photo (34.3%) exhibited no particular mouth area movement, compared with just 7.5% of girls. There were also few more instances of boys' photos exhibiting other moves associated with masculinity, such as parting their lips yet show no smile (9.2% vs. 5%), or lower the corner of lips (1.7% vs. 0.3%).

While older boys' photos more often showed lips parted without smile than their female counterpart (9.3% vs. 4.1%), older girls do show bright smile more often than the male counterparts (9.3% vs. 3.5%). As to the rare occurrence of 'sensuous moves', it is manifest in photos of girls from both age groups and photos of older boys, but not those of younger boys.

2. Overall facial expression:

Table 3

Overall Facial Expression (in percentage)

	Girls			Boys			12-15	16-18	All	N=
	All	12-15	16-18	All	12-15	16-18				
Cute/vulnerable	52.5	50	53.4	8.6	8.9	8.6	39.4	28.7	30.6	611
Cool/fierce	4.4	5.4	4.1	49.3	52.2	49	17.4	28.8	26.8	537
Funny/dramatic	8.1	13.8	6.1	10.9	15.6	10.4	14.3	8.5	9.5	190
Sexy/sensual	0.9	0.8	0.9	0.1	0	0.1	0.6	0.5	0.5	10
Others	27.4	21.5	29.5	23.0	18.9	23.4	20.9	26.1	25.2	504
N/A	6.7	8.5	6.1	8.1	4.4	8.5	7.4	7.4	7.4	148
N=	1000	260	740	1000	90	910	350	1650	2000	2000

As Table 3 shows, cute/vulnerable look is the most popular facial expression (30.6 %) among all sampled photos, while the cool/fierce look being the second most popular (26.8 %) facial expression. Just as more girls' photos adopted the mouth area movements associated with girlishness or femininity compared with boys, more than half teenage girls' photos (52.5%) favored the stereotypically feminine cute/vulnerable look, as opposed to only 8.6 percent of teenage boys' photos. Yet, when it comes to the stereotypically masculine cool/fierce look, an equally disparate gender ratio is visible: around half (49.3%) of teenage boys' photos displayed this look compared to a mere 4.4% of girls'. Slightly more photos of boys depicted them putting on a funny/dramatic facial expression compared with girls (10.9% vs. 8.1%). Interestingly, photos' of younger girls and boys' more often showed them with funny/dramatic look when compared with those of their older counterparts, suggesting that perhaps as teenagers grow up, their preference shift from the mischievous dramatic/funny looks toward the more subtle, hence more 'grown-up' looks. Regarding sexy/sensual facial expression, more girls' photos than boys' (0.9% vs. 0.1%) displayed this look. However, it should be noted that the summed number of occurrence is very small (nine cases vs. one case).

In order to further learn about the elemental mouth area movement in an overall facial expression, a cross-tabulation between the two variables 'mouth area movement' and 'overall facial expression' was conducted, with the non applicable cases in both variables

excluded.

Table 4
Top 2 Mouth Area Movement in Overall Facial Expression (in percentage)

Overall facial expression					
Cute/ vulnerable	**Cool/ fierce**	**Funny/ dramatic**	**Sexy/ Sensual**	**Others**	**Total**
Puckered/ Pouted 49.2%	No lips movement 62.4%	Puckered/ Pouted 57.4%	Sensuous moves 50.0%	Reserved smile 51.4%	Reserved smile 27.4%
Reserved smile 23.4%	Reserved smile 14.3%	Reserved smile 14.4%	Puckered/ Pouted 25.0% Lips parted no smile 25.0%	Bright smile 18.7%	Puckered/ Pout 24.1%
n=598	n=526	n=188	n=8	n=498	N=1818

The results in Table 4 (N=1818) showed that, of the photos that displayed a 'cute/ vulnerable' look, around half of them (49.2%) were the subject puckering/pouting the lips, about a quarter (23.4%) involved the subject giving a reserved smile, yet 8.5% of them showed the subject pressing the lips flatly, and another 8.5% showed the subject with no particular mouth area movement, meaning that the visual effect of appearing cute/ vulnerable is achieved through the eyes (i.e. widened eyes, slightly-raised eyebrows).

Among the photos that displayed a 'cool/fierce' look, not surprisingly, 62.4% of them the subject had no mouth area movement, giving a typical 'blank' look; 14.3% of the them involved the subject giving reserved smile as if reluctant or couldn't care less; and 8.4% of them showed the subject's lips apart but had no other mouth area muscle movement. As to the photos that showed a 'funny/dramatic' look, 57.4% of the subjects employed the puckered/pouted lips, 14.4 of the subjects displayed reserved smile, while another 11.7% of the subjects mouth wide open. For the photos giving 'sexy/sensual' expression, 50% (four photos) showed the subjects doing sensuous moves with the lips or kissing another person, 25% (two photos) showed the subjects puckering/pouting, and another 25% (two photos) showed the subjects' lips apart with no muscle movement. As to the photos whose facial expressions did not fall in the above-mentioned categories, around 70% of them showed the subjects displaying some level of smile —51.4% demonstrated reserved smile, while 18.7% demonstrated bright smile.

3. Hand movements:

Table 5

Hand Movements (in percentage)

	Girls			Boys			12-15	16-18	All	N=
	All	12-15	16-18	All	12-15	16-18				
Self-touch finger to lips	2.6	3.1	2.4	1.5	0	1.6	2.3	2.0	2.0	41
Self-touch finger to face	16.4	15.4	16.8	7.1	6.7	7.1	13.1	11.5	11.8	235
Self-touch sexual	0.5	1.5	0.1	0	0	0	1.1	0.1	0.2	5
Soft touch	1.3	0.8	1.5	0.2	0	0.2	0.6	0.8	0.8	15
Gesture	2.3	1.2	2.7	1.5	1.1	1.5	1.1	2.1	1.9	38
Utilitarian touch	2.7	1.5	3.1	1.8	2.2	1.8	1.7	2.4	2.2	45
Others	5.4	3.8	5.9	4.4	5.6	4.3	4.3	5.0	4.9	98
N/A	68.8	72.7	67.4	83.5	84.4	83.4	75.7	76.2	76.2	1523
N=	1000	260	740	1000	90	910	350	1650	2000	2000

As Table 5 shows, in a large majority (76.2%) of photos, the subject either had no particular hand/finger movement or did not have the hand/finger in frame. Of the photos that had hand movement in frame (n=477), more than half of them showed the subjects self-touching (49.3 % touching the face, 8.6% touching the lips, and only 1% sexual self-touching). Twice as many boys as girls do not have any hand movements in the frame (31.2% vs. 16.5%).

While the difference in the occurrence of self-touching one's lips between girls' and boys' photos were quite small (2.6% vs. 1.5%), twice as many girls' photos showed self-touching the face (16.4% vs. 7.1%), compared with boys' photos. Factoring in the five instances of girls self-touching the private parts (4 photos of girls aged 12-15 and 1 photo of a girl aged 16-18), overall speaking, girls' photos demonstrated more self-touching than those of boys' (19.5% vs. 8.6%). Furthermore, girls' photos displayed more act of soft-touch than those of boys (1.3% vs. 0.2%). Thus, it appears that girls' photos do exhibit the conventional feminine hand movement of self-touching and soft-toughing more when compared with boys' photos. As to the stereotypically-masculine utilitarian touch, there were more instances of girls doing so than boys, but the difference was less than 1% (2.7% vs. 1.8%).

4. Body postures:

Table 6

Body Postures (in percentage)

	Girls			Boys			12-15	16-18	All	N=
	All	12-15	16-18	All	12-15	16-18				
Body canting	11.6	10.4	12	6.1	2.2	6.5	8.3	9.0	8.8	177

Space reducing poses	7.8	11.2	6.6	1.9	2.2	1.9	8.9	4.0	4.8	97
Sexual body language	3.4	3.5	3.4	0.2	0	0.2	2.6	1.6	1.8	36
Space-occupying	0.3	0	0.4	1.9	5.6	1.5	1.4	1.0	1.1	22
Lying or reclining on bed	2.1	1.2	2.4	1.3	1.1	1.3	1.1	1.8	1.7	34
Intimate contact	0.3	0	0.4	0.1	0	0.1	0	0.2	0.2	4
Hugging an object/a person (non sexual)	0.9	0.8	0.9	0.1	0	0.1	0.6	0.5	0.5	10
Others	0.8	0.8	0.8	1.3	1.1	1.3	0.9	1.1	1.0	21
No particular pose/ body not in frame	72.8	72.3	73	87.1	87.8	87	76.3	80.7	80.0	1599
N=	1000	260	740	1000	90	910	350	1650	2000	2000

As Table 6 shows, 80 percent of the photos did not have any particular body pose in frame, but more than twice as many girls' photos as boys' posed (27.2% vs. 12.9%). When a pose was struck, photos of girls from both age groups showed more conventionally feminine poses such as body-canting (11.6 vs. 6.1), space-reducing poses (7.8% vs. 1.9%), and hugging or holding an object/a person (3.3% vs. 0.8%) compared with those of boys'. Similarly, the space-occupying pose stereotypically associated with masculinity appeared in more boys' photos than girls' (1.9% vs. 0.3%). Interestingly, younger girls' photos exhibited more space-reducing poses when compared with those of older girls' (11.2% vs. 6.6%), whereas younger boys' photos exhibited more space-occupying poses when compared with those of older boys (5.6% vs. 1.5%). 'Sexual body language' is visible more often in girls' photos (3.5% of 12-15 year olds, 3.4% of 16-18 year olds) when compared with older boys' photos (only 0.2%), and non-existent in younger boys' photos. As to the 'lying/reclining on the bed' or 'intimate contact' poses, girls' photos demonstrated more of such acts, but the differences from boys were less than 1%. However, it is worth noting that 'intimate contact' only occurs in three photos of older girls and one photo of older boys, but not in the photos of their respective younger counterparts.

5. Mode of dress:

Table 7

Mode of Dress (in percentage)

	Girls			Boys			12-15	16-18	All	N=
	All	**12-15**	**16-18**	**All**	**12-15**	**16-18**				
Everyday	84.0	85.8	83.4	92.3	100	91.5	89.4	87.9	88.2	1763
Demure	6.6	5.8	6.9	0.4	0	0.4	4.3	3.3	3.5	70
Suggestive	5.0	6.2	4.6	3.4	0	3.7	4.6	4.1	4.2	84
Partially clad	2.3	1.5	2.6	3.6	0	4	1.1	3.3	3.0	59
Indiscernible	2.1	0.8	2.6	0.3	0	0.3	0.6	1.3	1.2	24
N=	1000	260	740	1000	90	910	350	1650	2000	2000

As Table 7 shows, in a prominent proportion (88.2%) of photos, the subjects were in everyday outfit. More boys' photos showed the subjects dressed in everyday outfit than girls' photos do (92.3% vs. 84%), and it follows that girls' photos more often depict them in demure dress (6.6% vs. 0.4%) or suggestive outfit (5% vs. 3.4%) compared with boys' photos. In keeping with the findings from the 'body part portrayed' variable, even though girls' and boys' photos all portrayed the subjects being partially clad, there were more instances of boys (older boys in particular) appearing so when compared with girls (3.6% vs. 2.3%). And it should be noted that, again, no younger boys' photos portrayed the subjects being in something other than everyday outfit.

6. Revealed body parts:

Table 8

Revealed Body Parts (in percentage)

	Girls			Boys			12-15	16-18	All	N=
	All	12-15	16-18	All	12-15	16-18				
Face	91.3	90.4	91.6	92.9	100	92.2	92.9	91.9	92.1	1842
Girls' cleavage/bare shoulders; Boys' partially revealing chest	5.2	5.4	5.1	3.5	0	3.8	4.0	4.4	4.4	87
Girls' top in underwear/ bare breasts covered with hands; Boys' bare chest	1.3	1.2	1.4	3.6	0	4	0.9	2.8	2.4	49
Lower body in underwear/ bare thighs or lower abdomen	1.4	1.5	1.4	0	0	0	1.1	0.6	0.7	14
Full body in underwear	0.7	1.2	0.5	0	0	0	0.9	0.2	0.4	7
Others	0.1	0.4	0	0	0	0	0.3	0	0	1
N=	1000	260	740	1000	90	910	350	1650	2000	2000

As Table 8 shows, almost all (92.1%) of the photos portrayed solely the face or face and body in everyday outfits. Slightly more girls' photos captured in the frame the girls' cleavage/bare shoulders than boys' photos do on his partially-revealing chest (5.2% vs. 3.5%). Altogether, 21 photos of girls' portrayed the girls' lower body in underwear/bare thighs/midriff or even full body in underwear, whereas none of the boys' photos did so (2.1% vs. 0%). However, boys' photos more often portrayed the boys' bare chest than girls' photos do on her upper body in underwear/bare breasts covered with hands (3.6% vs. 1.3%), perhaps because boys in bare chest bears less sexual implications than girls in bra top, therefore deemed more acceptable to be displayed in public albums.

Interestingly, while younger boys' photos all portrayed face solely or face and body in everyday outfits, older boys' photos more often portrayed partially-revealing or bare chest (100% vs. 92.2%). As to girls, the percentages in both age groups' choice of body part

portrayed are quite similar.

C. <u>Examination of Teenagers' Profile Self-Portraits</u>

Of the 200 teenagers, 75 girls and 74 boys had their profile page open and posted a self-portrait as profile photo[3]. The 169 valid photos were coded using the six variables, each category in every variable *with count over five* were then examined using chi-square test of independence to see whether the differences between genders were statistically significant[4]. The following section only reports differences between genders that are statistically significant.

1. Mouth area movements
As table 9 shows, around 26 percent of the profile photos show the teenagers displaying no particular mouth area movement. Reserved smile (22%) and puckering/pouting (15%) are, respectively, the second and third most common movements. In terms of gender difference, the results tally with the patterns observed in section B. Girls' profile photos significantly outnumbered boys' in mouth area movements associated with girlishness or femininity, such as puckering/pouting (21% vs. 9%, $p<0.05$), reserved smile (31% vs. 13%, $p<0.01$). On the other hand, there were significantly more boys' photos showing no particular mouth area movements as compared to girls (37% vs. 14%, $p<0.001$).

2. Overall facial expression
As table 10 shows, cool/fierce look is the most popular (29.5%) facial expression among the 169 valid profile photos, while another 24 percent of them are facial expression harder to code (i.e. others) and yet another 21 percent showing cute/vulnerable look. Again, preference for facial expression is gender-related: 34 percent of girls' profile photos displayed the cute/vulnerable look, as opposed to only 8 percent of boys' ($p<0.001$). On the contrary, 46 percent of boys' profile photos displayed the stereotypically masculine cool/fierce look compared to only 13 % of girls' ($p<0.001$). As to the funny/dramatic look, no significant gender difference was observed.

3. Hand movements
As table 11 shows, in a majority (65.5%) of profiles, the teenagers either had no particular hand movement in frame. Boys were significantly more likely than girls to not show hand movements (75% vs. 56%, $p<0.01$). Also, girls were significantly more likely to demonstrate self-touching compared to boys (22% vs. 6%, $p<0.01$).

4. Body posture
As table 12 shows, 74.5 percent of the profile photos do not show the teenagers having particular body pose in frame. Of them, boys were slightly more likely than girls to not pose for the photo (81% vs. 68%, $p<0.05$). And girls were significantly more likely to demonstrate stereotypically feminine pose such as body canting or space-reducing pose when compared with boys (12% vs. 2%, $p<0.01$).

5. Mode of dress & Revealed body parts

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[3] Wretch assigns different URLs to an individual's album page and profile page. Unlike Facebook, which treats one's profile page as the portal to her/his other digital contents on Facebook (e.g. photos, wall message), on Wretch one can set the profile to private/or even not activate the profile page but still make album page accessible by the public. Hence in this study there are instances when albums were public but profile pages were closed.

[4] As the previous analysis of 2000 self-portraits did not reflect age-related differences, the following section would only examine gender-related differences.

Finally, in terms of mode of dress and revealed body parts (table 13 and 14), there is no significant gender difference. Most of the valid photos showed the teenage subjects in everyday outfit, except the five profile photos of girls' that portrayed them in suggestive clothing revealing cleavage/bare shoulders.

Table 9
Mouth Area Movements (in counts)

	Girls	**Boys**	**All**
Puckered/Pouted	21*	9	30
Sensuous moves	0	1	1
Lips parted no smile	7	11	18
Reserved smile	31*	13	44
Bright smile	3	4	7
Lips pressed together flatly	1	4	5
Lips lowered	2	0	2
Mouth wide open	0	0	0
Other than above	3	0	3
No movement	14	37*	51
N/A	3	5	8
Invalid photos	15	16	31
N=	100	100	200

* Asterisks in Table 9-14 denote categories that show statistically significant difference between girls and boys.

Table 10
Overall Facial Expression (in counts)

	Girls	**Boys**	**All**
Cute/vulnerable	34*	8	42
Cool/fierce	13	46*	59
Funny/dramatic	4	7	11
Sexy/sensual	1	0	1
Others	29	19	48
N/A	4	4	8
Invalid photos	15	16	31
N=	100	100	200

Table 11
Hand Movements (in counts)

	Girls	Boys	All
Self-touch finger to lips	0	2	2
Self-touch finger to face	22*	4	26
Self-touch sexual	0	0	0
Soft touch	0	0	0
Gesture	5	3	8
Utilitarian touch	1	0	1
Others	1	0	1
No particular moves/Hands not in frame	56	75*	131
Invalid photos	15	16	31
N=	100	100	200

Table 12
Body Posture (in counts)

	Girls	Boys	All
Body canting	6	2	8
Space reducing poses	6	0	6
Sexual body language	1	0	1
Space-occupying	0	1	1
Lying or reclining on bed	2	0	2
Intimate contact	0	0	0
Hugging an object/a person (non sexual)	0	0	0
Others	2	0	2
No particular pose/ body not in frame	68	81*	149
Invalid photos	15	16	31
N=	100	100	200

Table 13
Mode of Dress (in counts)

	Girls	Boys	All
Everyday	80	84	164
Demure	0	0	0
Suggestive	5	0	5

Partially clad	0	0	0
Indiscernible	0	0	0
Invalid photos	15	16	31
N=	100	100	200

Table 14
Revealed Body Parts (in counts)

	Girls	**Boys**	**All**
Face	80	84	163
Girls' cleavage/bare shoulders; **Boys' partially revealing chest**	5	0	5
Girls' top in underwear/ bare breasts covered with hands; Boys' bare chest	0	0	0
Lower body in underwear/ bare thighs or lower abdomen	0	0	0
Full body in underwear	0	0	0
Others	0	0	0
Invalid photos	15	16	31
N=	100	100	200

D. A Typology of Teenagers' Online Self-Portraits

In order to determine the major patterns of portrayal in the young people's self-portraits, a cluster analysis was performed using SPSS two-step cluster, a technique recommended for the handling of large dataset (over 1,000) as well as categorical data (SPSS Inc., 2001). The clustering algorithm was based on the log-likelihood distance measure for its ability to handle categorical variables. After the first step of pre-clustering, SPSS then used standard agglomerative hierarchical clustering method on the preclusters to form the final clusters. The final number of clusters was selected by the SPSS default auto-clustering algorithm to be optimal based on a combination of Schwarz Bayesian Criterion (BIC) and log-likelihood distance (Garson, 2009). No outlier handling was applied as the goal of study was to find the 'natural groupings' (Chatfield & Collins, 1980, p. 212) of photos according to their traits, thereby discovering larger patterns of all sample. The clustering result was determined the best fit because of the homogeneity within clusters, the heterogeneity among clusters and the ease of interpretability.

The variables included for analysis were 'overall facial expression', 'mouth area movement', 'hand movement', 'posture', 'mode of dress' and 'revealed body parts'. Four clusters were extracted as the prototypical self-portraits. The resulting cluster and the top two characteristics of each cluster are listed in Table 15.

Table 15
Top 2 Characteristics of the 4 Clusters of Self-Portraits (in percentage; N=2000)

Cluster 1 'The Cool'	Cluster 2 'The Childlike'	Cluster 3 'The Mixed'	Cluster 4 'The Sexy'
N=502	N=610	N=731	N=157
Girls 17%	Girls 70%	Girls 55%	Girls 55%
Boys 83%	Boys 30%	Boys 45%	Boys 45%
Mouth Area Movement			
No movement or N/A (79%)	Puckered/Pouted (61%)	Reserved Smile (59%)	No movement or N/A (43%)
Lips parted no smile (7%)	Lips pressed together flatly (11%)	Bright smile (13%)	Puckered/Pouted (24%)
Facial Expression			
Cool/Fierce (74%)	Cute/Vulnerable (69%)	Others (66%)	Cute/Vulnerable (36%)
N/A (25%)	Funny/Dramatic (30%)	Cute/Vulnerable (18%)	Cool/Fierce (32%)
Hand Movement			
N/A (85%)	N/A (69%)	N/A (78%)	N/A (70%)
Others (5%)	Self-touch: face (18%)	Self-touch: face (11%)	Self-touch: face (13%)
Body Posture			
No particular pose/body not in frame (94%)	No particular pose/body not in frame (77%)	No particular pose/body not in frame (78%)	No particular pose/body not in frame (55%)
Space-reducing (3%)	Body cants (11%)	Body cants (13%)	Sexual body language (21%)
Revealed Body Parts			
Face (99.8%)	Face (100%)	Face (100%)	Girls' cleavage/ bare shoulders; Boys' partially-revealing chest (55%)
Others (0.1%)	(0%)	(0%)	Girls' upper body in underwear/bare breasts yet covered; Boys' bare chest (31%)

Mode of Dress			
Everyday outfit (97.8%)	Everyday outfit (90%)	Everyday outfit (98%)	Suggestively clad (51%)
Demure (0.9%)	Demure (7%)	Demure (0.8%)	Partially clad (38%)

Cluster 1: The Cool

This cluster, named 'the cool', consisted of 502 photos (see Figure 1 for an exemplar photo[5]). These photos were more likely to be those of boys' (416 boys and 86 girls). The variables 'mouth area movement' and 'overall facial expression' were most important in differentiating this cluster. Subjects in them appear to look cool/fierce, and often had no mouth area movement, while some display reserved smile. The photos are all portrayal of the subjects' face and body dressed in everyday outfit, and did not particularly have any body pose, thus this cluster of photos resemble ID photos, in which the display of minimum face and body movement is demanded. Most did not have any hand movement in frame, but when they did, it was likely to be less conventional hand movements (i.e. 'others' hand movements) or utilitarian touch. The traits in this cluster match those of stereotypical male representations.

Figure 1: An illustrative photo of 'the cool'

Cluster 2: The Childlike

610 photos were classified into the second cluster, named 'the childlike' (see Figure 2.1 through 2.4 for exemplars), in which the majority were girls' photos (428 girls and 182 boys). The variables 'mouth area movement', 'overall facial expression' and 'hand movement' were important in differentiating this cluster. They were all face-shot of the

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[5] All photos used for illustration belonged to young adult users of Wretch Album who volunteered to have their self-portraits used for this study. They were briefed about the research project and all gave their consent in writing in which they also indicated whether they wish their self-portraits to be anonymized in my academic publications.

subjects, with most of them looking cute and vulnerable, and some making funny/dramatic faces. Most puckered/pouted the lips, while some had lips pressed together flatly as if being overcautious, or giving reserved smile. Most of the shots did not show hand/finger movement, but when there were, it was most likely to be self-touching the face or lips. Compared to other clusters, this cluster has the most instances of self-touching the face or lips. A large proportion of them did not have the body movement in frame, but when they did, they were likely to be body canting or space-reducing poses. Most of them depicted the subjects wearing everyday outfit, while some were in demure outfits.

Figure 2.1

Figure 2.2

Figure 2.3

Figure 2.4

Cluster 3: The mixed
The third cluster was named 'the mixed', and contained 731 photos (see Figure 3). The gender ratio was relatively balanced, with 400 girls' photos and 331 boys'. They were all face-shots that demonstrated facial expressions harder to categorize, while some put on cute face and others make cool look. Most demonstrated reserved smile, while some had bright smile and still others had no lips movement at all. Most of them did not show hand in motion, but some showed the subjects self-touching the face, or other less conventional movements. They often did not have body pose in frame, but when they did, it was most likely to be body canting. Almost all subjects were dressed in everyday outfit.

Figure 3

Cluster 4: The Sexy
The last cluster, called 'the sexy', was the smallest group (157), with 86 girls' photos belonging to 28 girls, and 71 boys' photos belonging to 24 boys (see Figure 4 for an exemplar). The variables 'body posture', 'hand movement', 'body part portrayed' and 'mode of dress' differentiate cluster 4 the most, hence the defining feature of the group was that the photos all portrayed the subjects dressing demurely, sexy or even partially. While few subjects purposely put on a sensual facial expression, cute and cool looks were among the more popular expressions. The mouth area movements ranged from suggestive move, puckering/pouting, reserved smile, to no particular moves at all. Most did not have hand movement in frame, but few of them showed sexual-touching (e.g. the breasts), and still some others touched their face or lips. In terms of body posture, most subjects didn't have particular pose, while some posed in sexy manner and still others in body canting or space-reducing poses. All of the photos portrayed some part of the 'skin' revealed.

Figure 4

E. Degree of Variation in Each Individual's 10 self-portraits

In order to understand the degree of variation in each individual's ten self-portraits, the self-portraits were re-examined using the four clusters as prototypes to see to what extent the sampled photos are similar or different — that is, how many of them are photos of the same type. As table 16 shows, around half (47.5 percent) of the teenagers have between five and six photos falling in the same type (24.5 % have 5 photos in the same cluster, and 23 % have six photos in the same cluster). Another 38.5 percept of teenagers have at least seven photos falling in the same cluster.

Table 17 shows that 27.5 percent of teenagers have most photos (i.e. size of biggest cluster out of 10 photos) showing the 'cool' type, of them 90.0 percent was boys and only 9 percent girls. 34 percent of teenagers have most photos showing 'the childlike' look, of them 75 percent girls and 25 % boys. 33.5 percent of the teens have most photos showing the 'mixed' look, of them 56.7 percent girls and 43.3 percent boys. Only 5 percent of teenagers have most of their photos demonstrating the 'sexy' look, and of them 60 percent are girls and 40 percent are boys. This result suggest that the micro gender pattern in individual's ten photos is in line with the macro gender patterns observed in the previous analysis of all 2000 photos.

Table 16
Gender * Size of biggest cluster Crosstabulation (in counts)

		Number of photos falling in the same cluster								
		3	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**
Gender	**Girls**	1	7	31	20	18	11	10	2	100
	Boys	2	18	18	26	14	8	7	7	100
Total		3	25	49	46	32	19	17	9	200
		(1.5%)	(12.5%)	(24.5%)	(23%)	(16%)	(9.5%)	(8.5%)	(4.5%)	(100%)

Table 17
Gender * Biggest cluster Crosstabulation (in counts)

		Biggest cluster				
		The Cool	**The Childlike**	**The Mixed**	**The Sexy**	**Total**
Gender	**Girls**	5	51	38	6	100
	Boys	50	17	29	4	100
	Total	55 (27.5%)	68 (34.0%)	67 (33.5%)	10 (5.0%)	200 (100.0%)

Discussions
The study has sought to address several public concerns over teenagers' self-portraiture on social-networking site, using the popular website Wretch as an exemplar site. It asked two broad questions: firstly, what types of personal information in terms of names and contacts do teenagers disclose? Secondly, what are some gender-specific patterns of portrayal in teenagers' self-portraiture?

The results indicated that, in general, full name — the most private information —is least-disclosed, while the school —the comparatively least private information— is most-disclosed. As to electronic contacts, which depends on how much one is willing to network with people met online, four in ten teenagers has provided such information on their profiles. There is a higher percentage of younger teenagers disclosing their names, schools and providing their electronic contact information when compared with older teenagers. The percentage of boys disclosing private information of these sorts was also higher than girls. In particular, older teenage girls were consistently the group least likely to disclose private information. This suggests that younger teenagers and boys may yearn for the networking experience more, while older teenage girls were the most careful about their online safety in terms of revealing personal information that might enable strangers to easily find out about their personal identity in the offline world.

Looking at the representational styles of the 2000 self-portraits randomly collected from 200 teenagers, age did not appear to be an explanatory variable. This may be due to two reasons: Firstly, the two age groups are close enough in their developmental stage so little difference can be expected in their decisions about representation styles. Secondly, as the sampling method only control for equal number of boys and girls due to the study's explicit focus on gender-related patterns, the disproportion in the size of two age groups means that the younger group may not be large enough to make its traits stand out more.

Both the analysis of the 2000 self-portraits taken from albums and profile self-portraits revealed that overall speaking the performance of what Goffman (1979) would describe as 'hyper-ritualized gender acts' is prominent and is consistent with patterns of representation reported for advertisements and documented by psychologists (e.g. Goffman, 1979; Plant et al., 2000). Simply put, a large number of girls' photos portrayed themselves as cute and childlike by citing feminine codes of facial and/or body language such as puckering/ pouting, self-touching and body cants, whose visual effect symbolize feminine qualities of emotion, childishness and vulnerability (Herring & Zelenkauskaite, 2009). On the other hand, a large number of boys prefer portraying himself in the absence of/ or with minimal facial expressions or body movements, reflecting the masculine stereotypes of emotionless and unaffected.

However, a noticeable minority of teenagers made the apparent cross-over adoption of feminine codes of cute/childishness. Comparing between the numbers of girls' and boys' photos adopting the representational codes conventionally associated with the opposite sex, twice as many boys adopted the feminine codes as girls who adopted the masculine code. It may be that, teenage boys, who are essentially still children, can demonstrate feminine/childlike demeanour without the fear of not being masculine enough. Another possible explanation is that the increasing media representation of effeminate male celebrities/entertainers dubbed as 'flower-pretty man' (*huamei nan*) in Asia means that demonstrating feminine qualities and appearing to be metereosexual is more socially acceptable.

As to the (hyper) cute acts manifest in many girls' self-portraits, Morreal (1991) suggests that this cuteness as aesthetics may be explained in evolutionary perspective. Cute features elicit from human the innate nurturing response to care for the baby that is cute, small, innocent, powerless, vulnerable, and clumsy. The characteristics that make babies cute are: disproportionately-large head and eyes, plump cheeks and bodies, soft skin, and clumsy moves (Lorenz, 1943, as cited in Morreal p. 40). These features are observable in a typical cute self-portrait in which the subject purposely opens the eyes wider, shoots

from a downward 45 degree angle to create the visual effect of a small face, pouts/puckers the lips or to press the lips flatly together to appear like a spoiled, displeased or innocent child. Hand movements of gently self-touching the lips, face, head or hair gives off the impression that her body is soft, delicate and pleasurable to touch.

Morreal further argues that cuteness is extended beyond adult-infant relationship to romantic relationship precisely because the affection for the partner is similar to that to babies. Indeed, Catherine Farris' (1988) fieldwork observation in a kindergarten in Taiwan found that girls were encouraged since an early age to behave in cute manners, and such demeanor of acting cute (*zhuang ke'ai*) sometimes continues into early adolescence and periods of courtship. Here the conscious efforts of acting cute is not as simple as resorting to traditional patriarchy. Rather, Chuang (2005) argues that the performance of cuteness has become a symbolic tool with which some women use for 'conscious maneuvering and self-redefinition' (p. 25) such as deflecting conflicts, and getting their way around. She further concludes that while cuteness can be read as a reinforcement of male-dominating power relations, it also opens up potential for the cute-actors themselves to backlash against existing gender relations via the conscious use of cynicism and cute-play. Although Chuang's concluding remarks and anecdotal examples were unconvincing with regard to how the practice of cute-playing can signify female agency, she nonetheless raised the intriguing question of whether cute-playing is necessarily disempowering. Putting it in the context of girls' self-portraiture, it may be worth studying, through interviews, what girls themselves think of cute-playing and whether its meaning to them extend beyond the moment of self-portraiture.

Despite the emergence of a clear gender-related pattern of representations in some photos, yet another large number of teenagers' self-portraits do not fall in the feminine-childlike or masculine-cool categories. The clustering results are especially informative in providing an estimate of the ratio of different types of self-portraits. Around 37% of the photos fall in the biggest cluster of 'the mixed', which means that a photo randomly selected from the sample has the biggest likelihood of demonstrating less-conventional representational codes and patterns. Although the coding framework of the study was not developed with the intention of capturing a wide array of representation codes but those gender-related, the fact that 72% of photos in 'the mixed' cluster portrayed the subjects giving bright smile or reserved smile indicates that whatever the body movements may be, most photos categorized as the 'mixed' type demonstrate some degree of friendliness.

Further, the study finds that the presentation of oneself in sexual manners is not as widespread as the media hype and moral panics claim. According to the examination of profile self-portraits, only 2.5% of the photos showed the subject in sexy outfits. Yet, the clustering results showed that 7.8% of the total sample fall into 'the sexy' cluster. One possible explanation to the difference may be that profile photos is often used to present an overall image of self, so teenagers would be more reserved in choosing a sexy self-portrait, while albums often have different themes and putting sexy self-portraits can be seen as part of oneself, rather than the whole of self as in the case of profile photo. However, it should be emphasized again that the rare occurrence may be due to the fact that samples were drawn from a larger sampling population who self-disclosed or implied to age 13-18. It may well be the case that those who post sexual self-portraits do not disclose their age for a number of reasons such as 'can't be bothered to post age' or 'it might get them into trouble'.

While the sample is not representative, in the rare incidence of sexual self-portraits a stereotypical pattern does surface. There are more girls portraying themselves in sexual

manners than boys do, and this result is consistent with the stereotype that women tend to be portrayed as sexy in the media. This may be because girls are keener to express their sexuality through self-portraiture, and that girls have more sartorial choices that enable them to dress in demure or suggestive ways, whereas for boys and men it is more difficult to 'dress sexy' apart from being top-naked.

Implications and Directions for Future Research
Self representation has progressive potential; however, what was observed was a majority of stereotypical gender representations, with some even hyper-gendered self-representations, which are observed elsewhere in teenagers' visual representation in cyberspace (cf. Thomas, 2007). As Thumim (2009) notes, 'it would be both simplistic and idealistic to think in terms of regressive mainstream representations and progressive self-representations: there is always a cross over as each influences the other (p. 25)'. While the homogeneity in some self-portraits may appear to refute the possibility of challenging dominant media representations, it should be noted that every self-portrait is produced by the individual teenager in a specific context involving macro-institutional forces such as such as Wretch's commercial promotion of 'beautiful chicks', meso-level of factors such as peers or family, and micro personal idiosyncrasy; the process of producing self-representation is nonetheless of personal importance to the individual, despite the seemingly lack of originality to onlookers. To some, the (hyper-) gendered acts of self-representation may be an online-only performance that is not in the least close to their self-presentation in their offline life; to others, the (hyper-) gendered acts may simply be a representation of their offline persona; and to still others, there may not be such a clear-cut distinction. If these are the cases, then 'whether self-representation online is/can be progressive' may not be the right question to ask, as it does not move our understandings beyond 'yes and no' and the incessant dispute that follows.

Alternatively, attending to the institutions, technologies and people through and in which meaning-making takes place (Thumim, p. 25) —the process of mediation — may generate more constructive insights into the role of self-portraiture in a social-networking environment in teenagers' everyday (gender) identity project. This exploration of the intricacies and ambiguities inherent in the process demands researchers to look beyond the end-product of self-representation, thus, the way forward signposted by the current content analysis is to learn about the macro, meso and micro forces at work in teenagers' decision-making regarding self-portraiture through teenagers' own accounts.

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