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CAM: an achievement model of celebrity

Björn Boman[1]

Abstract

This article does partly extend Duckworth's achievement model and the significance of beauty, which appears to be linked to celebrity achievement. It presents a revised version of the grit model with an added attractiveness feature, labelled CAM (Celebrity Achievement Model), which may be useful when measuring, predicting, or explaining celebrity achievement, including both 'macro-celebrities' and 'micro-celebrities'. Then, the results of a survey study on celebrity attractiveness ($N = 183$ respondents on 10 celebrities) and another similar study ($N = 121$ respondents on 55 celebrities) are highlighted. The findings suggest that beauty is moderately linked to higher achievement among celebrities and that rather different celebrities have higher-than-average levels of attractiveness. Celebrity net worth and Instagram following are highly intercorrelated.

Keywords CAM · Celebrity achievement · Grit · Beauty · Attractiveness scale

Introduction

Psychologists related to subdisciplines such as sports psychology, music psychology, educational psychology, and labor psychology have for decades linked measured levels of favorable personality traits to achievement in a variety of occupational and educational contexts. They have consistently found that the personality trait conscientiousness, among which one of its six facets or sub-traits is achievement striving, leads to greater outcomes in a variety of occupations (e.g., Salgado 1997; Poropat 2009; Duckworth and Seligman 2005; John and Srivastava 1999; McCrae and Costa 2008). Assertiveness, related to the extraversion trait of the Big Five Factor Model, is important in a variety of vocational settings (Salgado 1997). In the behavioral economics literature, which focuses on measuring and identifying the relationships between character/personality and economic outcomes, these individual components

✉ Björn Boman
    bjorn.boman@edu.su.se

[1] Department of Education, Stockholm University, Stockholm, Sweden

are commonly referred to as skills that can be modified throughout life rather than relatively fixed traits (Heckman and Kautz 2014).

More recently, Duckworth (2017) broadened the quantitative scope of psychological research to include interviews with celebrities and successful people in for instance film, academia, and sports. That scholarly effort was conducted to provide more insights about the grit concept. Grit comprises passion and perseverance, and Duckworth presents a rather large body of compelling evidence for the significance of grit for general achievement, among high achievers in particular. Duckworth and Quinn (2009) have invented the grit scale to measure grit as well as a more straight-forward and generic achievement model (Duckworth 2017). While some have questioned the distinctiveness of grit in relation to conscientiousness (Muenks et al. 2017) the achievement model suggested by Duckworth (2017) is not affected by such criticism. However, conscientiousness or grit might be used to indicate effort (Duckworh 2017: Duckworth and Seligman 2005).

As partially its own field in the social sciences, the study of celebrity has partly provided space for the understanding of factors which underlie such achievement (e.g., Rojek 2001). However, the general tendency has been to critically examine celebrity achievement in relation to a variety of social, national and economic contexts and macro- and micro-cultural factors such as the 'attention economy', technological underpinnings, and consumerist individualism, inclusive of the relatively recent phenomenon of micro-celebrity (e.g., Senft 2008; Khamis et al. 2016; Toffoletti and Thorpe 2018), rather than to provide a conceptual model that accounts for the factors that seem to be associated with describing and explaining celebrity achievement at the individual or aggregated level. The current article aims to overcome the dichotomy between social structures and individual agency (e.g., Bourdieu 2013) in relation to the celebrity orbit and in this pursuit, it integrates theoretical and empirical elements from sociology, psychology, media and communication studies, and economics.

Another area of celebrity research is the impact of celebrities that are used in advertising (e.g., Ohananian 1990). There are no clear-cut distinctions between regular or macro-celebrities and micro-celebrities, but typically micro-celebrities use self-branding to increase commercial or cultural capital whereas regular celebrities (e.g., Tiger Woods) already are famous because of some particular achievement in for example sports or popular culture and therefore are used in relation to commercial activities like product marketing (Khamis et al. 2016).

Be that is it may, the nexus between grit and celebrity achievement needs to be further addressed. For instance, a deficit of the achievement model (Duckworth 2017) is that it does not account for the significance of beauty or attractiveness or the 'halo effect', which are intimately linked to celebrity achievement (Zebrowitz and Franklin 2014, Palmer and Peterson 2016, for a broader discussion about sociobiological beauty ideals in society, see also Meston and Buss 2009, Buss 1989, Miller 2001, 2007; Baumeister et al. 2017; Walter et al. 2020). Therefore, the current article presents an extended model, labelled CAM (Celebrity Achievement Model), which may be useful when measuring, predicting, or explaining celebrity achievement, including both regular celebrities and micro-celebrities. To some

degree it builds on the achievement model suggested by Duckworth (2017) but does also deviate from it.

The article proceeds with a description of the celebrity achievement model (CAM), a methodological section, two case studies in which the CAM model is applied, and ends with a discussion and conclusion.

Celebrity achievement model (CAM)

Duckworth (2017) describes a model as a two-step trajectory which facilitates achievement in a variety of settings, occupations, and contexts. It is a general model of achievement:

$$\text{Talent} \times \text{Effort} = \text{Skill}$$

$$\text{Skill} \times \text{Effort} = \text{Achievement}$$

In line with behavioral economics, it assumes that skills beget skills (e.g., Cunha and Heckman 2007) but that effort is a key component of the entire process (Duckworth 2017). Talent may be linked to for instance latent artistic capabilities, biological beauty potential, partly inherited cognitive ability, and personality traits, but as a general tendency such can hardly be measured, at least regarding famous celebrities who are difficult to reach and assess. Some attempts to estimate cognitive ability among wealthy individuals via proxy indicators such as attained educational levels have been made (e.g., Wai and Rindermann 2017) but personality traits are more difficult to capture without standard assessments like questionnaires. However, talent is more broadly defined and may be related to several aspects that can be revealed through interviews, self-statements, peer ratings, content analysis, and biographical accounts. Likewise, effort can quite easily be captured and even quantified, although with more or less accuracy.

However, the significance of beauty is not included in Duckworth's (2017) achievement model. Needless to say, beauty matters more or less depending on a given context. It seems more relevant for actors/actresses, models, pop singers and social media-linked micro-celebrities but less so for politicians, comedians, and sports stars. However, beauty is not a discrete but a continuous phenomenon (Meston and Buss 2009): a person may be more or less beautiful or attractive, and beauty or attractiveness may be more or less important depending on the particular context. Beauty is not binary but can be measured on scales from for instance 1–10. Thus, somewhere along these lines there might exist a generic "threshold value" for the ability to be famous, or to be able to magnify an individual's celebrity status.

The "beauty halo effect" was given scholarly attention in the 1970s onward (e.g., Kaplan 1977) and has continuously been examined in social science and behavioral science research. The concept implies that people are being perceived as better, and treated correspondingly, due to their level of "real" or perceived attractiveness (Zebrowitz and Franklin 2014). Even for politics, relative attractiveness may matter (Palmer and Peterson 2016; see also Morin et al. 2012). While standards of beauty

and attractiveness change over time and space and are, of course, in part socially constructed phenomena (Eco 2004), a 0.7 hip-to-waist ratio, symmetrical facial features, healthy skin, and long and lustrous hair have been regarded as cross-culturally attractive female features in modern times (Buss 1989; Miller 2001; Singh 2003). With regard to male aesthetics, specifically, a tall and athletic stature in concert with symmetrical facial features and thick hair, are regarded as attractive amongst large samples of heterosexual female interviewees (Meston and Buss 2009).

However, the celebrity economy may be related to broader and deeper aspects of taste, distinction, as well as economic and cultural capital. According to Pierre Bourdieu (1977; 2013; see also Ortega and Gasset 1968), the direct sensation of experiencing something or someone is related to the cultural tastes and dispositions of the 'low-brow' classes. The contemporary celebrity pop culture, especially the 'vulgar' and sexualized material not seldom found in pop music videos, TV shows, films, and currently more often at Instagram, may be related to the 'low brow' culture and tastes of the masses. No intellectual capacity is needed to appreciate, for example, sexy and 'attractive' Instagram photos (c.f., Bourdieu 2013; Ferreira 2017; Toffoletti and Thorpe 2018). Whereas Bourdieu (2013) and others (e.g., Lie 2014) are critical against such social and cultural demarcations, it is obvious that economic capital (see Bourdieu 2013) affects the celebrity economy. Large corporations do substantially decide which films, TV series, and popular music that will become popular and who will become the next 'star' celebrity. However, the interplays between corporations and audiences, and between celebrities and their audiences are increasingly becoming more dynamic. Moreover, currently it is easier to become a celebrity, a 'micro-celebrity' specifically (e.g., Khamis et al. 2016; Marshall et al. 2015; Rojek 2001), which thus blurs the class distinctions and the flows of economic, social and cultural capital. While it is still possible to suggest that the economic elites in societies such as big corporations and billionaires capitalize on the tastes of lower and middle strata of society (e.g., see Bourdieu 1977) in regard to pop culture, including Instagram, the audiences do still have a substantial degree of agency in regard to, for example, how to judge the attractiveness and competence of celebrities.

That is, indeed, also the case with up-and-coming micro-celebrities, who sometimes have followers in the millions, primarily if not entirely because of their high levels of displayed beauty (e.g., see Upfluence 2018). Conversely, beauty is not all that matters, and a celebrity skillset does not consist of binary demarcations in relation to artistic skills. For instance, celebrity scholars have underlined that K-pop singers in South Korea are not just pretty but have more-than-decent singing skills (Kang 2017) and appropriate personality skills (Turnbull 2017; Boman 2019).

The CAM model is thus laid out according to this formula:

Talent (including beauty potential) × Effort (including beauty enhancement)
= Celebrity skillset

Celebrity skillset × Effort = Celebrity achievement

Celebrities tend to need a multiple skillset, inclusive of beauty skills and artistic skills (e.g., acting, music, sports, and/or additional personality skills). Artistic skills constitute a domain-specific set of skills, such as acting, singing, playing a sport or instrument. The reason why beauty is not only based on genetic "talent" and thus considered a skill is because efforts such as to apply proper make-up and diet to have a slenderer physique increase the perceived level of beauty/attractiveness among women (Cash et al. 1989; Meston and Buss 2009) and perhaps even males. For example, slender models who wear impeccable make-up such as Heidi Klum are considered very attractive (Eisend and Lengner 2010).

Therefore, the following hypotheses were considered:

H1 Celebrities are considered more attractive/beautiful than average (5).

H2 Female celebrities are considered more attractive/beautiful, on average, than male celebrities.

H3 Attractiveness/beauty can explain a substantial part of the variance of celebrity achievement indicators such as net worth and Instagram following.

Method

Study 1: participants and procedure

To exemplify or "test" the CAM model, the author conducted a survey related to the perceived attractiveness of five female and five male celebrities through the survey software SmartSurvey. The survey was conducted in the first half of July 2020. In this survey, 183 anonymous respondents—whose participation was advertised through social media, mainly in anglophone contexts—ranked the perceived attractiveness of ten celebrities from 1 to 10 (where 1 is the least attractive and 10 is the most attractive), specifically Ariana Grande (female American pop singer), Elsa Hosk (female Victoria Secret model from Sweden), Chris Hemsworth (male Australian actor), Chung-ha (female Korean American K-pop singer), Jungkook (male Korean K-pop singer and member of the K-pop boy band BTS), Zac Efron (male American actor), Jourdan Dunn (female British model and actress), Lisa Soberano (female Filipino-American actress), and Justin Bieber (male American pop singer). These were selected to include equal representation of both sexes and a variety of ethnic groups (e.g., black, Caucasian, Asian) and several nationalities (USA, UK, Sweden, South Korea, Australia). It had also been preceded by discussions with researchers in related disciplines. Nonetheless, the selection process was still, in part, intuitive and arbitrary.

The respondents (i.e., the participants, which should not be cofounded with the celebrities in any of the two studies) were shown one picture of each celebrity without information about the individual's name, age, nationality, or occupation (see

Smart Survey 2020a). The pictures were taken from a simple Google search (fair use) and incorporated into the survey software. Each picture was roughly equivalent in terms of size and to the extent to which it seems to display a favorable depiction of each specific celebrity. Pictures were typically recently taken, with the exception of Will Smith (1968-) for which a photo from 2005 was used in order to avoid a potential negative age effect bias (e.g., Quereshi and Kay 1986).

The 1–10 scale was used because beauty is expected to be continuously, not discretely measured (e.g., Pereiera et al. 2019). Results for celebrities were expected to be higher than the scale average because they are often deemed attractive (Eisend and Langner 2010), whereas non-celebrities are often deemed below average, especially males among female raters (e.g., Rudder 2015).

Apart from calculating descriptive data on average attractiveness from the 183 respondents, bivariate Spearman rank correlations were conducted for the non-parametric data of the ten celebrities. Relationships between Instagram following (which may be regarded as a proxy value of celebrity achievement, see De Weirman et al. 2017), age, gender (1 = female, 0 = male), and attractiveness were calculated. Instagram following was preferred over for instance celebrity net worth (e.g., Celebrity Networth 2020) because it is a somewhat more reliable measure. The attractiveness value for each celebrity individual was based on an average score from the survey results. This variable and sex constitute the major explanatory variables, whereas age constitutes a control variable.

In addition, brief qualitative analyses and discussions were made for three of these ten individuals. In this regard, the author used examples from the related literature, interviews available online, and applied a multimodal content analysis with analytical inspiration from Krippendorff (2018). This means that the author analyzed the content from the basis of gestures, behaviors, and personality skills (Boman 2019, 2020) among these celebrities and combined this information with other data. Specifically, information about effort and conscientiousness was collected and personality expressions and behaviors associated with the Big Five were examined in interviews. Big Five comprises Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Each major personality trait is associated with at least two major facets and several related skills. Openness to experience is associated with fantasy, artistic/aesthetic, feelings, and unconventional ideas and experiences. Conscientiousness is linked to competence, dutifulness, achievement striving, perseverance, delay of gratification, and self-discipline. Extraversion is associated with self-confidence, gregariousness, and excitement seeking. Agreeableness is connected to trust, altruism, compliance, modesty, and tender-mindedness. Neuroticism is linked to anxiety, hostility, depression, impulsiveness, and vulnerability (Heckman and Kautz 2014, pp. 348–349). The opposite of neuroticism is emotional stability, which is positively associated with job performance (Salgado 1997). Heckman and Kautz (2014, p. 350) stress that character skills, such as personality traits, do not require measurement by standard questionnaires. Instead they can be examined through observable "tasks" or items, whether tests, school degrees or other accomplishments, "Many believe that personality skills can only be assessed by self-reported questionnaires that elicit skills like the Big Five. However, performances on any

task or any observed behavior can be used to measure skills." It is also important to underscore that character skills are universal and as such valid concepts in non-Western cultures (Heckman and Kautz 2014, p. 343). In interview contexts with celebrities, behaviors associated with agreeableness and extraversion are expected to be displayed. This line of research follows recent qualitative applications of the Big Five concepts (e.g., Boman 2021).

The three celebrities were also coded by another rater on a three-point scale where 1 represents low, 2 represents moderate, and 3 represents high openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. The author and another researcher acted as two independent coders of the personality skills among these three celebrities after watching the interviews repeatedly. The interrater agreement was 100% (for discussions and recommendations, see LeBreton and Senter 2008; Cohen 1988). Both raters are from the same Western country, which may lead to reference bias (Heckman and Kautz 2014, pp. 352–355). In the main text, only general observations of personality skills were briefly reported.

Study 2: participants and procedure

The second study was conducted in the second half of July 2020. In this study, several of the same procedures were conducted but with $K = 55$ macro- and micro-celebrities (49 females, six males), who all had an Instagram account, and with no qualitative discussions. For the 55 individuals, the Upfluence (2018) list on top Instagram model accounts was used as a starting point and then more celebrities were added from Instagram's top accounts list because there was a shortage of non-white ethnic individuals. For instance, celebrities such as Beyoncé, Neymar, Dwayne Johnson, Nicki Minaj, and the four BLACKPINK members Lisa, Jennie, Rosé and Jisoo were included (Smart Survey 2020b). A slight difference was that the photos displayed more of the individual's body and not just the face which is related to the LSS variable discussed below and the mixture of thinner and larger female models. For a few older individuals (e.g., Adriana Lima) photos from their "prime years" were used to avoid an anti-ageism bias. Again, social media was used to collect responses ($N = 121$) and participants' privacy were protected due to anonymity and transparency about the purpose of the survey.

In the first OLS (ordinary lest squares) multiple regression model, number of Instagram followers was again defined as the dependent variable, whereas age, attractiveness, number of posts, level of self-sexualization (LSS), and net worth (Celebrity Net Worth 2020) were understood as the independent variables. Again, attractiveness and sex were considered the major independent variables whereas Celebrity net worth, age and LSS were considered control variables. Number of posts was considered a partial indicator of effort.

LSS was coded by the first author and another rater (see above) on a three-point scale where 1 represents low, 2 represents moderate, and 3 represents high LSS. The initial interrater agreement was 82% (for discussions and recommendations, see LeBreton and Senter 2008; Cohen 1988). When interrater disagreement was

present, the two raters reached consensus. Pearson's correlations were also calculated between several variables (e.g., net worth and Instagram following). As a general value in the social and behavioral sciences, correlation coefficients between 0.30 and 0.69 is moderately correlated, whereas 0.7–0.9 is considered highly correlated, and 1.0 perfectly correlated (Akoglu 2018). However, Cohen (1988) presents somewhat lower thresholds for 'medium' and 'large' correlation coefficients.

In the second OLS model, celebrity net worth was defined as the dependent variable and Instagram followers as an independent variable in conjunction with the others listed above. This is because celebrity net worth might be influenced by Instagram following, and Instagram following might be influenced by celebrity net worth. The net worth data is not as accurate as Instagram following but similar to Wai and Rindermann (2017) who used data from Forbes. However, estimation inaccuracies are typically averaged out among a larger set of individuals. The initial estimation models can be described as follows:

$$\text{Instagram}^i = \text{Networth}_{i\beta} + X_{i\beta}^{\text{Age}} + X_{i\beta}^{\text{Sex}} + X_{i\beta}^{\text{Attractiveness}} + X_{i\beta}^{\text{Number}} + LSS_{i\beta} + e^i$$

Here $Instagram^i$ is artist retention in the K-pop industry among individual artist ^{i}, and $X^{Net\,worth}{}_{i\beta}$ $X^{Age}{}_{i\beta}$, $X^{Sex}{}_{i\beta}$, $X^{Attractiveness}{}_{i\beta}$, $X^{Number}{}_{i\beta}$ and $LSS_i\beta$ are the coefficients of these explanatory variables, and e^i is an error term.

$$\text{CelebNW}^i = \text{Instagram}_{i\beta} + X_{i\beta}^{\text{Age}} + X_{i\beta}^{\text{Sex}} + \text{Attractiveness}_{i\beta} + X_{i\beta}^{\text{Number}} + LSS_{i\beta} + e^i$$

Here $CelebNW^i$ is the net worth among individual celebrity ^{I}, $Instagram_i\beta$, $X^{Age}{}_i\beta$, $X^{Sex}{}_i\beta$, $Attractiveness_i\beta$, $X^{Number}{}_i\beta$ and $LSS_i\beta$ are the coefficients of these explanatory variables, and e^i is an error term.

All statistical analyses were conducted in SPSS Statistics 26.

Results

Study 1

75.96% of the respondents were White/European, 3.28% were Black/African, 10.93% East Asian, 4.8% Other Asian, 6.56% Latin/South American, 5.46% mixed, and 0.55% Middle Eastern in terms of ethnicity. 29.12% were white collar workers, 8.24% blue collar workers, 50.55% students, 10.44% currently jobless, and 1.65% clerk/salesperson. 55.19% were self-identified as females, 41.43% as males, and 3.28% unspecified. 59.02% were between the ages of 18–25, 32.24% were between 26 and 35, 6.56% were between 36 and 50, and 2.19% were between 51 and 70.

Table 1 summarizes the descriptive statistics of the data set for the ten celebrities. It is notable that the average aggregated attractiveness score for these individuals was 6.67 which is distinctively above the average. However, the correlation between attractiveness and Instagram following was $r = -0.466$. This is because Justin Bieber, with an Instagram following of about 140 million, is considered one of the least attractive (5.13) and Jourdan Dunn and Liza Soberano the most attractive while

Table 1 Descriptive statistics of celebrities in study 1

Artist	Instagram (million)	Age	Gender	Attractiveness
Ariana Grande	195	26	F	6.62
Elsa Hosk	6.1	32	F	6.85
Chris Hemsworth	43.1	37	M	7.25
Chunga-ha	4.4	24	F	7.30
Will Smith	46.1	52	M	6.45
Jungkook	6.8	23	M	5.97
Zac Efron	42.4	33	M	5.80
Jourdan Dunn	2.5	30	F	7.24
Liza Soberano	13.2	22	F	8.10
Justin Bieber	140.1	26	M	5.13

being less famous and successful in terms of Instagram following. This might, however tentatively and preliminarily, suggest that within celebrity populations there are other factors besides attractiveness that contribute to achievement, such as hit songs, successful films, individual skills, luck, and chance (Boman 2019). Females were considered substantially more attractive as the correlation between female and attractiveness was $r = 0.667$. However, there were no substantial effects for age. This suggests that among some celebrities, attractiveness plays a less important role for achievement. However, larger sample sizes in terms of both celebrities and respondents would enable less than preliminary results.

Ariana grande

With about 200 million followers on Instagram, only beaten by the soccer player Christiano Ronaldo on that account, and more than a billion views of each of her most popular songs and music videos at YouTube, Ariana Grande (1993-) is currently the most successful individual pop singer in the world. The material analyzed is available at YouTube (see specifically Grande 2019a).

However, Grande was shaped as a pop celebrity at an early age when she was merely an emergent adolescent star in shows like Nickelodeon's *Victorious* (2010–2013). Back then, Grande seemed to have a more normal built in terms of height/weight ratio (e.g., see Grande 2019b) but 2013 onward, when she was advertised as the next big pop star in American mainstream pop music by her record company Republic Records in connection to the album debut "Yours Truly" (2013), she has trained and dieted to become thinner and sexier as part of the sexualized imagery in the majority of the music videos (e.g., "Side to side", "Into you", "7 Rings", "God is a woman"). Grande tends to wear high heels to compensate for the short stature, which simultaneously makes this artist conform more to generic or universal beauty standards (Meston and Buss 2009). The web questionnaire ranked Grande's level of average attractiveness as 6.62.

But it would be overly simplified and even erroneous to assume that Grande is merely a pretty talent who was discovered and then re-packed and sold to the American and global audiences in a sexier version. For instance, Grande displayed some real singing abilities (Grande 2019b), and whether those skills were a consequence of talent more than effort or vice versa is perhaps less relevant. She was discovered by her music label after providing them with material. Thus, Grande has built her beauty skills and artistic skills over time by talent and effort.

Will Smith

To support the grit theory, Duckworth (2017) highlights the musician and actor Will Smith as one of many examples of being a "paragon of grit", who has managed to outcompete others by hyper-industriousness and a strong work ethic. Smith stresses:

> The only thing that I see that is distinctively different about me is: I'm not afraid to die on a treadmill. I will not be outworked, period. You might have more talent than me, you might be smarter than me, you might be sexier than me. You might be all those things. You got in on me in nine categories. But if we get on the treadmill together, there's two things: You're getting off first, or I'm going to die. It's really that simple.
> (Smith quoted in Duckworth 2017, p. 46)

Smith's self-accounts might be relatively sufficient to explain the factors which underlie his success as a celebrity, primarily as a film actor, starring leading roles in films like *Men in Black* (1997), *Enemy of the State* (1998), *Ali* (2001), *I, Robot* (2004), *I Am Legend* (2007), and *Suicide Squad* (2016). Smith clearly emphasizes effort over talent, but nevertheless talent and effort in tandem have facilitated his acting skills. However, Smith is also tall and athletic and as such relatively attractive according to generic standards for modern males. To succeed in Hollywood and acquire leading film roles, "beauty skills" are required. Smith's strong self-reported work ethic may have contributed to his athletic physique and why he was chosen to play Cassius Clay/Muhammed Ali (Smith 2017). Will Smith's average attractiveness score based on the survey was 6.45.

To quantify the efforts required to improve physical fitness is less pertinent than the efforts which underlie the body type needed for an actor on screen. The efforts that facilitate acting skills and reputation thereof are more relevant, because these constitute comparative advantages in the entertainment orbit, whereas having only an athletic body is not sufficient. The body is required, but the requested body itself is, in relation to celebrity achievement merely, an additional feature. As a broader sociocultural tendency, this reflects the commodification of male bodies (Pompper 2010; Mitchell and Lodhia 2017).

Chung-ha

Another example of how CAM applies to an individual celebrity is the emergent K-pop star, Chung-ha (born in South Korea in 1996 and former member of the

short-lived girl group I.O.I., as well as partially raised in Dallas, US), who revealed in an interview (Chung-ha 2019) that when asked about how much effort she puts into the training for a music video she replied "forever" and laughed. Then, she added, more specifically but with some vagueness, that prior to the shooting process of a music video she and her team practice "like a month or two" and without sleep the 2 days upon the release of the song and additional broadcasted live performances in South Korea and elsewhere. In the same interview, Chung-ha does also underscore that they "monitor ourselves", which clearly exemplifies the significance of deliberate practice (for a discussion, see Duckworth 2017, pp. 120–142). Singers, actors/actresses, and sports stars do not just invest effort into practice per se, but practice which incrementally leads to improvement in regard to particular micro skills that encompass a larger skillset and specific high-level goals (Duckworth 2017). The practice of Chung-ha is appropriate and instrumental in the pursuit of making the dance choreography and overall performance as flawless and solid as possible prior to music video recording and live performances.

In addition, Chung-ha's beauty—which reached the average value 7.30 in the current survey—is in accordance with both cross-cultural and Korean ideals, which conform to a somewhat thinner body type (Boman 2019). It is difficult to disentangle the talent visa-a-vis the effort of Chung-ha and other K-pop singer's relative beauty. Certainly, both "authentic" (biological, nutrition, natural skincare, and physical exercise) and "artificial" measures (e.g., plastic surgery, make-up) matter for the maximization of an individual's potential or "talent".

It is also noteworthy that personality skills related to agreeableness and extraversion manifested throughout this interview and the others, which perhaps appear typical for most celebrities. They laugh, nod, act pleasant, and politely answer all questions as a part of their career commitments and corresponding artistic persona. However, if these should be regarded as personality traits rather than observable "skills" elicited in specific official contexts they must be rigorously tested in larger samples.

Study 2

85% of the 121 respondents were White/European and 15% were mixed. 65% were between the ages of 18–25, 30% were between 26 and 35, and 5% were between 36 and 50. Occupational information was not collected for this sample. Thus, this sample was substantially more homogenous and less representative than the previous one. Nevertheless, it is interesting to see how, mostly young white males, judge mostly young and white female models.

Table 2 includes descriptive statistics of the 55 celebrities. The correlation between Instagram following and net worth was $r = 0.819$ (p value 0.001), which signifies a strong relationship. The correlation between Instagram following and number of posts was $r = 0.364$ (p value 0.001), which signifies a moderate relationship. Within the Instagram model category, a small correlational effect size, $r = 0.192$ (p value 0.001), was found between attractiveness and Instagram following. The correlation between sex and attractiveness was $r = 0.430$ (p value 0.001),

Table 2 Descriptive statistics of celebrities in study 2

Celebrity	Instagram (million or thousands)	Net worth (million USD)	Age	Sex	Attractiveness	Number of posts (rounded off)	Level of self-sexualization
Kendall Jenner	126.0	45	25	F	7.38	3200	2
Gigi Hadid	54.8	57	25	F	6.52	3100	2
Cara Delevingne	44.2	9	28	F	7.14	4200	2
Chrissy Teigen	30.4	75	35	F	5.43	4100	2
Bella Hadid	31.4	6	23	F	6.05	2500	2
Emily Ratajkowski	26.6	12	29	F	6.52	2100	3
Sommer Ray	24.8	10	24	F	7.10	1150	2
Hailey Baldwin	27.6	2	23	F	6.74	1900	2
Gisele Bundchen	16.0	400	40	F	5.15	640	1
Candice Swanepoel	14.4	30	32	F	6.95	2200	2
Miranda Kerr	12.3	45	37	F	7.90	2700	2
Barbara Palvin	14.2	6	27	F	7.10	1800	1
Adriana Lima	12.6	85	39	F	7.24	1700	2
Ashley Graham	11.0	10	33	F	7.67	3300	2
Karlie Kloss	8.7	30	28	F	5.33	1750	2
Josephine Skriver	6.2	12	27	F	6.67	2200	2
Cindy Kimberly	6.4	3	21	F	5.76	500	2
Liu Wen	5.1	40	32	F	7.25	2100	1
Sierra Skye	4.1	1	24	F	6.62	700	2
Lucky Blue	2.8	1	22	M	6.05	1100	2
Mathilde Tantot	7.2	1	24	F	7.70	140	2
Jessica Stein	2.3	1	31	F	6.00	5200	2
Natasha Oakley	2.2	1	29	F	4.95	4500	2
Pia Muehlenbeck	2.0	1	28	F	6.55	2700	2
Franciso Lachowski	1.7	1	29	M	6.95	1060	2

Table 2 (continued)

Celebrity	Instagram (million or thousands)	Net worth (million USD)	Age	Sex	Attractiveness	Number of posts (rounded off)	Level of self-sexualization
Jon Kortajarena	2.6	1	35	M	5.70	2370	2
Camila Morrone	2.2	1	23	F	7.25	420	2
Rocky Barnes	2.0	1	35	F	7.05	7520	1
Pamela Alexandra	3.8	1	31	F	5.20	270	2
Devin Brugman	1.3	1	30	F	5.95	3200	2
Lisa Marie Schiffner	1.2	1	19	F	6.65	1250	2
Jenah Yamamoto	876,000	1	26	F	6.95	1530	3
Mimi Elashiri	995,000	1	23	F	6.75	5500	2
Liz Turner	936,000	1	28	F	7.40	800	2
Cindy Mello	1.0	1	25	F	7.35	600	2
Gabi Fresh	784,000	1	34	F	5.25	2000	2
Madi Edwards	687,000	1	24	F	6.15	2100	2
Audrey Michelle	789,000	1	21	F	6.30	500	2
Megan Williams	760,000	1	26	F	7.10	1000	2
Frida Aasen	654,000	3	25	F	6.15	1000	3
Bridget Malcolm	347,000	3	28	F	5.79	100	2
Rain Dove	429,000	1	30	M	3.58	800	2
Jessie Andrews	266,000	3	28	F	5.63	220	2
Alina Baikova	418,000	3	31	F	5.58	1200	2
Raven Lyn	322,000	0	24	F	7.80	400	2
Lalisa Manoban	34.7	8	23	F	6.47	600	1
Rosé Park	25.6	8	23	F	7.42	500	1
Jennie Kim	28.4	8	24	F	8.00	600	1

Table 2 (continued)

Celebrity	Instagram (million or thousands)	Net worth (million USD)	Age	Sex	Attractiveness	Number of posts (rounded off)	Level of self-sexualization
Ji-soo Kim	24.3	8	25	F	7.24	400	1
Lindsey Pelas	9.0	1	29	F	4.68	1700	3
Neymar da Silva Santos Jr	139.0	185	28	M	5.16	4800	1
Beyoncé Knowles–Carter	149.0	500	39	F	6.47	2000	2
Dwayne Johnson	188.0	320	48	M	5.00	5000	1
Cristiano Ronaldo	227.3	500	35	M	4.65	3000	2
Nicki Minaj	117.6	80	38	F	5.70	6200	2

which implies that the raters rewarded female celebrities more than male celebrities (but not more sexualized imagery). The correlation between Instagram following and age was $r=0.426$ (*p* value 0.001) and between net worth and age was $r=0.482$ (*p* value 0.001), which means that celebrities of higher age have acquired more wealth and more followers. Interestingly, this might be interpreted as partial support for the CAM model as celebrities may have to wait for long-term success until their 40s. Thus, age might be considered a predictor and not just a control variable in future research. Because males had more followers, the correlation between Instagram following and sex was $r=-0.414$ (*p* value 0.001). However, when celebrities

Table 3 Relationship between Instagram following and other variables

	B	β	SE
Net worth	0.297*	0.765	0.031
Age	− 1867.891**	− 0.103	762.254
Sex	− 29,757*	− 0.203	11.705
Attractiveness	15.386***	0.030	11.705
Number of posts	7.444*	0.258	41.742
LSS	908.607***	− .012	2.932
Observations	55		7310.464

Significance levels: *$p<0.01$ **$p<0.05$ ****$p<0.5$, R^2 0.766

Table 4 Relationship between celebrity net worth and other variables

	B	β	SE
Instagram	2.175*	0.846	0.232
Age	5235.835*	0.239	1949.677
Sex	52,819.134***	0.141	33,146.091
Attractiveness	− 56.8611***	− 0.043	112.809
Number of posts	− 16.905*	− 0.228	6.254
LSS	− 8691.592***	− 0.034	19,746.658
Observations	55		

Significance levels: *$p<0.01$ **$p<0.05$ ****$p<0.5$, R^2 0.742

Table 5 Relationship between Instagram following and other variables

	B	β	SE
Net worth	0.200*	0.828	0.023
Age	− 1113.174*	− 0.255	443.588
Sex	− 3991.174***	− 0.053	7190.678
Attractiveness	37.309**	0.157	22.865
Number of posts	4.232**	0.316	1.292
LSS	12,709.569**	0.236	5298.129
Observations	45		

Significance levels: *$p<0.01$ **$p<0.10$ ****$p<0.5$, R^2 0.691

with huge Instagram following were removed and only models ($N = 45$) were compared the correlation became $r = 0.141$ (*p* value 0.001).

Tables 3, 4 and 5 demonstrate the regression output of the OLS regressions ($N = 55$), where the coefficients are reported. The model has a good fit ($R^2 = 0.876$). Essentially, the model shows that net worth, being male, and number of posts predicted Instagram following. When additional OLS models with only these three models were run, this was also the case. However, for the 45 Instagram models (see Table 4) from the Upfluence list being perceived as attractive was predictive at the 10% level and self-sexualization at the 5% level. Moreover, the statistical model which only included the 45 Upfluencer models indicates (see Table 5) that younger models have more Instagram followers, and that putting effort into more posts were associated with a higher amount of Instagram followers. Perhaps, perceived attractiveness and self-sexualization become less important among comparatively attractive and economically successful individuals.

Robust checks

As a test of robustness of the regression models, an interaction term (attractiveness*level of self-sexualization) was created. However, this interaction term was not statistically significant and had large problems with multicollinearity when it was included in the same model as the attractiveness and self-sexualization variables. When only the interaction term was included, and attractiveness and level of self-sexualization were excluded, the statistical power of the model (R^2) did not change substantially. This indicates that the main models were robust. However, all models that excluded celebrity net worth had very weak R^2, which suggests that attractiveness, age, sex, effort and self-sexualization could not explain much of the variability in celebrity achievement among this sample of celebrities.

Conclusion and discussion

The following hypotheses were considered: celebrities are considered more attractive/beautiful than average, female celebrities are considered more attractive/beautiful on average than male celebrities, and attractiveness/beauty can explain a substantial part of the variance of celebrity achievement indicators such as net worth and Instagram following. Below, these three hypotheses are tied to the results of these two studies. In addition, links to earlier research, limitations, and directions for future studies are discussed.

As a case study of 10 celebrities, a survey was filled in by $N = 183$ respondents. The results suggest that celebrities in film, music and modeling are, as expected, more attractive than average. A second study included more celebrities ($K = 55$) and predictor and control variables but had limitations in regard to number of respondents ($N = 121$) and variables related to effort as number of posts might be only partially linked to effort. The most consistent finding was the relatively high average attractiveness rating among most celebrities (Study 1 and Study 2) and

the intercorrelation between Instagram following and celebrity net worth (Study 2). However, both studies found positive correlations between attractiveness and achievement indicators (Instagram following, Celebrity net worth).

As the CAM model, in part, builds on Duckworth's (2017) version of achievement theory and combines it with the perception of attractiveness/beauty among random respondents it is, in part, important to focus on effort. Study 1 did not include any independent variable related to effort, although attractiveness may partially be related to both talent and effort. Instead, the rather brief qualitative discussions included some information on effort and artistic skills derived from interviews and other sources as they were interpreted by the author and a co-coder. Another limitation was that the respondents constituted a convenient sample allocated through social media, and the ten celebrities were somewhat arbitrarily selected. Moreover, only basic descriptive information about the respondents was included but for instance sex/gender and/or nationality or ethnicity of the respondents might affect the rating patterns. Interaction effects between respondents' background variables and distribution of attractiveness among celebrities (e.g., in terms of nationality, ethnicity, age and sex) could be further addressed in future research. In the current study, the average attractiveness score of celebrities and micro-celebrities score was the major focus in that regard.

Study 2 included more celebrities—majorly females—and added predictor variables such as number of Instagram posts, level of self-sexualization, and net worth. However, none of these variables are perhaps appropriate proxies for effort because it is not hard to undress or make many Instagram posts, although high-quality Instagram content might imply considerable effort which underlies such material. These aspects could be further developed in future research. Unless it is assumed that attractiveness and net worth, in part, are composite values of effort and talent because it requires such components to become successful, this aspect is largely ignored in the second study. Therefore, it is important to identify variables possible to quantify and/or combine a statistical approach with archive material such as interviews and biographical information. Moreover, a single picture cannot capture all the different "versions" of a celebrity's appearance. Therefore, video footage might be used a complement (e.g., see Pereira et al. 2019, for suggestions). Such material may capture the entirety of the body of an individual, which is important in the age of social media (e.g., Khamis et al. 2016; Ferreira 2017).

Another limitation is that no non-celebrities were compared with the celebrity individuals, partly due to ethical considerations. Is it ethically justifiable to include seemingly "unattractive" random individuals without, or even with their written consent and can a researcher make such selections without imposing on the results? Nevertheless, celebrities of different gradients in terms of perceived attractiveness and achievement solve some of these methodological problems. Another approach, overlooked in these studies, would be to include micro-celebrities and "regular individuals" who have an Instagram account. Such a study could be built on a combination of the short grit scale (Duckworth and Quinn 2009) and self-rated attractiveness. In this study, celebrities were evaluated using the participants' ratings and the interpretations of two researchers. Moreover, because other personality traits (e.g., narcissism, extroversion, see Young and Pinsky 2006) might influence a strive for

celebrity achievement, brief versions of the Big Five Inventory (Rammstedt and John 2007) and Dark Triad (Jones and Paulhus 2013) might constitute additional research features in such contexts.

Since this study is exploratory it might be difficult to compare these results with earlier studies. However, as several South Korean K-pop music celebrities (e.g., Chung-ha, Jennie Kim of BLACKPINK) were considered attractive it is associated with the findings from content analyses of K-pop material (e.g., Boman 2019; Turnbull 2017). The high rankings of the beauty of models are consistent with the findings of Buss (1989) and Singh (2003), as many of these (e.g., Miranda Kerr, Mathilde Tantot) display typical beauty elements such as a slender physique, well-proportioned facial features, and long and lustrous hair (e.g., Buss 1989). The fact that most celebrities are considered more attractive than average is in concordance with market research such as Eisend and Langner (2010). Similar to Rudder (2015), both studies indicate that females are considered more attractive than males. This seems to be the case regardless of the percentage of raters who are males or females (compare study 1 and study 2). While the number of celebrities, males in particular, was very small in relation to Study 1, and therefore broader generalizations cannot be made, the response patters and total number of responses enable some tentative suggestions regarding the perceived attractiveness. In the current article, no distinction between perceived beauty and perceived attractiveness was made but other positions are possible in that regard.

Furthermore, there are other statistical techniques and study designs that may lead to more reliable results, such as replication surveys, and longitudinal studies. Generally, substantially more respondents, as well hundreds of celebrities belonging to different sub-categories (e.g., film, music, model industry, sports, politics), as well as non-celebrity control groups, would lead to richer analyses and more reliable findings. Therefore, the results are to be regarded as preliminary and the two studies exploratory, although far from trivial or meaningless. For example, the relationship between celebrity net worth and Instagram following could be further analyzed. Because celebrities with many Instagram followers may increase their level of net worth by posting advertisers (e.g., Sweney 2021) there is clearly a bidirectional relationship between Instagram following and net worth. Such relationships could be further analyzed.

The current article has elaborated a theoretical model related to celebrity achievement, CAM. It builds, in part, on Duckworth's (2017) achievement model but adds beauty/attractiveness because it assumes that celebrities are more attractive than average and that this is a "comparative advantage" in the selection process of becoming a celebrity, and all else being equal it might be an advantage after some success already has been reached and might constitute a career magnifier. However, many other factors seem more important for achievement, some of which are beyond the control of an individual such as hit songs written by other individuals (in the case of for instance Ariana Grande and Justin Bieber) or film scripts. Such relationships reflect the economic capital and dominant classes within a particular society (Bourdieu 2013). In sub-sectors of the larger celebrity economy, like politics and sports, attractiveness appears to be subordinated to domain-specific skills and other factors. In film, sports, and perhaps even modeling overall effort may matter

for achievement, and really high achievement leads to huge net worth and Instagram following (e.g., Beyoncé Knowles-Carter, Dwayne Johnson, Cristiano Ronaldo, Will Smith).

Data availability The two main tables (1 and 2) and references (the two surveys in particular) provide a substantial amount of information about the celebrities. Thus, it is possible to replicate the findings using the data from these two tables. Results from the two surveys and information about raters (i.e., 'participants' who rated the attractiveness of celebrities) are anonymized and not eligible for review due to ethical considerations.

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