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Beauty and Preferences Formation Exemplified in the Sports Market

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Beauty and Preferences Formation Exemplified in the Sports Market

Hannah Josepha Rachel Altman (Corresponding author)
Queensland University of Technology (QUT), Australia

Morris Altman
University of Dundee School of Business, UK

Benno Torgler
Queensland University of Technology (QUT), Australia

and Stephen Whyte
Queensland University of Technology (QUT), Australia

Contribution prepared for the forthcoming book: Hannah J. R. Altman, Morris Altman, and Benno Torgler (Eds.) (2021). Behavioural Sports Economics.
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Beauty has been used as a fast and frugal heuristic, and therefore an important determinant of choice, as highlighted in research by Hamermesh. In a world of asymmetric information, beauty represents a proxy for objective characteristics or an object of desire, according to an individual's preferences. A correlate of beauty, sexiness, has been used in sports to choose trainers or even to select the athletes expected to perform best, with people paying a premium for this beauty or sexiness. We argue that beauty can be a good or bad heuristic depending on the objective relationship between beauty and what it proxies. When it is a bad heuristic, it generates sub-optimal outcomes for sports organizations. We discuss the conditions under which the beauty or sexiness heuristic generates sub-optimal outcomes, why rational agents choose such a heuristic, and the conditions under which bad heuristics are sustainable. We also discuss this heuristic and the beauty premium in the context of Becker's economic theory of discrimination, wherein rational decision-makers trade-off material considerations for the utility gained by contracting beautiful and sexy individuals. The latter has implications for the economic sustainability of an organization.

Introduction

Beauty has been used as a positive fast and frugal heuristic, and therefore as an important determinant of choice and reward, as highlighted in research by Hamermesh (2013)[1]. Beauty is assumed to be a proxy for objective characteristics in a world of asymmetric and costly information. The argument is that beauty is used as a fast and frugal heuristic because it is a profitable endeavour. On average, this yields an income premium to 'beautiful' people. In sports and the health and fitness industry, a correlate of beauty, sexiness, has been used to choose trainers or even to select the athletes expected to perform best (Wainwright 2018). Here too, it is assumed that beauty or sexiness is a proxy for objective characteristics that yield positive outcomes for the organization. Also, sexiness (for both men and women) is used as a signifier for marketability of the output produced or co-produced by the athlete. Fans follow sports due to aesthetic factors (Smith 1988)[2].

[1] See also Dion, Berscheid, and Walster 1972; Eagly et al. 1991; Etcoff 1999; Kanazawa and Still 2018; Langlois et al 2000; Li, Zhang, Laroche 2019; Meier and Konjer 2015; Rosenblatt 2008; Ryall 2016; Stephan and Langlois 1984; Lorenzo et al. 2010, Stoll, VanMullem, Ballestero and Brown 2017; Varian 2006. In sports, Hoegele, Schmidt, and Torgler (2016) find that beauty has an influence on how fans perceive football players (assigning higher scores to personality, behaviour, and skills to more attractive players). In academia, social scientist benefit from a beauty premium in the speaking fee market while natural scientists gain from unattractiveness (Bi, Chan and Torgler 2020).

[2] This can also have negative side-effects. In aesthetic sports such as figure skating or gymnastics, eating disorders are more commonly observed among athletes (Krentz and Warschburger 2011); for example, Nelson (2009) explores beauty among female athletes. She stresses that in figure skating, "[a]thletes in sequins and 'sheer illusion sleeves' glide and dance, their tiny skirts flapping in the breeze. They achieve, but without touching or pushing anyone else. They win, but without visible signs of sweat. They compete, but not directly. Their success is measured not by conformation with an opponent, nor even by a clock or a scoreboard. Rather, they are judged as beauty contestants are judged: by a panel of people who interpret the success of the routines. Prettiness is mandatory. Petite and groomed and gracious, figure skaters – like cheerleaders, gymnasts, and aerobic dancers – camouflage their competitiveness with niceness and prettiness until it no longer seems male or aggressive or unseemly" (p. 529). She emphasises that in the 1990s figure skating was the most televised women's sport: "in 1995 revenue from skating shows and competitions topped six hundred million dollars. In the seven months between October 1996 and March 1997, ABC, CBS, NBC, Fox, ESPN, TBS, and USA dedicated 162.5 hours of programming to figure skating, half of it in prime time. Kerrigan earns up to three hundred thousand dollars for a single performance" (p. 529).

Additionally, in sports, we argue that beauty can be defined with regards to the ideal characteristics (anthropomorphic characteristics) of a prospect, which are expected to yield optimal productivity outcomes. A beautiful athlete, for example, would be a person who has certain physical characteristics which are expected to serve her or him well when competing, and this individual would be more likely to be selected or prepared to compete. This might be supplemented with psychological attributes.

A fast and frugal heuristic here would use these characteristics of beauty or sexiness to select our athletes, trainers, physiotherapists, coaches, etc. One theoretical narrative suggests that such a heuristic should generate superior outcomes to more nuanced, calculating, and time-consuming decision-making tools, which are more in line with conventional neoclassical economics methodology (Gigerenzer 2007). But evidence suggests that the beauty heuristic often generates sub-optimal results with regards to performance, by excluding individuals who are better in terms of outcomes than the beauty heuristic (Altman and Altman 2015a, 2015b).

We argue that beauty or sexiness can be a good or bad heuristic depending on the objective relationship between beauty and what it proxies. For example, when beauty is a proxy for the revenue generating power of an athlete, related to consumer demand, this can be a valid proxy (good heuristic) given consumer preferences. Our discussion of the beauty heuristic in sports, we argue, helps to illustrate the conditions under which a heuristic yields optimal results. We argue that optimality is conditional on circumstance, and different circumstances require different types of heuristics (Kahneman 2003, 2011). In this contribution, we argue that – all too often – the beauty or sexiness heuristic yields sub-optimal results in terms of performance or productivity and/or quality of outcomes. Moreover, in this case, when athletes, trainers, and others in sports-related organizations

receive a beauty premium in terms of their income, but one not warranted by economic outcomes, this can represent a form of economic discrimination analogue to Becker's coefficient of discrimination; wherein women or Blacks receive a lower rate of pay than men or Whites -- even though men or Whites are no more productive (Becker 1957). This is simply an outcome of whether male or White employers have a distaste for female or Black employees embedded in their preference function. Such a premium can undermine the economic sustainability of the organization.

There are two points that need to be addressed here. One relates to beauty or sexiness as a heuristic where the employer believes that the beautiful are more productive. The other specifically relates to the utility maximizing employers who are most concerned about less beautiful/sexy employees being penalized for not being beautiful or sexy, or the more beautiful and sexy employees being awarded simply on the basis of beauty and sexiness. This raises the question of how such suboptimal decisions can persist over time, a topic we address in this chapter.

Finally, we show how beauty or sexiness as a suboptimal heuristic (bad heuristic) can persist over time. The beauty heuristic need not be optimal to persist over time. Of particular importance is the market for sports team output (performance) or that of health and fitness outlets and how bad heuristics impact on the survival of these organizations. This builds upon an understanding of how suboptimal or inefficient organizations can survive over time. It also relates to how understanding imperfect information can serve to protect a bad beauty heuristic from being identified as the cause of poor performance outcomes. There can be an expected trade-off for a rational utility maximizing employer between beauty and revenue, depending on the preferences of the employer and the competitiveness of the market. Beauty as a heuristic in the sports and health and fitness

industries exemplifies how and why fast and frugal heuristics need not generate the best possible outcomes, even given bounded rationality.

Beauty and Sexiness as a Fast and Frugal Heuristic

The concept of fast and frugal heuristics was developed by Gerd Gigerenzer (2007, 2011) and his colleagues at the Center for Adaptive Behavior and Cognition (ABC) at the Max Planck Institute for Human Development in Berlin. The argument put forth is a simple one. Given bounded rationality (as developed by Simon 1955, 1979, 1987), it is inefficient to use the highly calculating, non-emotive, and technical decision-making procedures thought be most effective by conventional economic theory. In the real world of bounded rationality, unlike in the neoclassical world, information is asymmetric and costly. One cannot project the outcomes of current decisions and related choices into the future, and individuals do not have the natural capability to process and understand the information that they do have access to. Therefore, it is more efficient to adopt decision-making shortcuts to engage in the decision-making process. Gigerenzer preferences heuristics that are not only frugal, but also fast. He argues that such heuristics yield better (closer to optimal) outcomes than generated by conventional decision-making tools. They evolve from the experiences of decision-makers, based on effective decision-making tools given the decision-making environment. These heuristics are, therefore, deemed to be ecologically rational (Smith 2003, 2005).

One decision-making shortcut makes decisions based on the beauty or sexiness of a prospect, wherein beauty is a proxy for other desired characteristics. But one of the issues that we address is whether beauty as a heuristic in sports organizations – and, relatedly, health and fitness organizations – is a bad heuristic, despite the fact that using the beauty or

sexiness heuristic is not only common practice amongst decision-makers in these organizations, but also fast and frugal.

The concept of procedural rationality, developed by Simon, allows us to model the extent to which a heuristic is optimal without adopting neoclassical behavioural norms as a benchmark for optimality. This point is discussed in some detail in this book's chapter, "Sports Performance, Procedural Rationality, and Organizational Inefficiency." Procedural rationality is a pragmatic approach to better understanding optimal decision-making in the real world. Simon (1986, p. S211) argues that:

> …if we accept the proposition that knowledge and the computational power of the decision maker are severely limited, then we must distinguish between the real world and the actor's perception of it and reasoning about it… we must construct a theory (and test it empirically) of the processes of decision. Our theory must include not only the reasoning processes but also the processes that generate the actor's subjective representation of the decision problem, his or her frame… The rational person of neoclassical economics always reaches the decision that is objectively, or substantively, best in terms of the given utility function. The rational person of cognitive psychology goes about making his or her decisions in a way that is procedurally reasonable in the light of the available knowledge and means of computation [it is context dependent].

Procedural rationality assumes that decision-makers or economic agents are smart in the context of bounded rationality (Altman 2017c). They have objectives or goals such as winning a game or championship or making more profit on the margin. Given these objectives, decision-makers attempt to realize these objectives within the decision-making environment and their decision-making capabilities. Decisions and choices must be made to achieve their end, and this will involve the use of heuristics or decision-making shortcuts. The decision-makers, it is assumed, will attempt to optimize in the context of bounded

rationality. But these efforts might fail. We argue that this can be the consequence of adopting bad heuristics that the decision-makers believe to be optimal or best practice based on what other organizations or respected leaders have done in the past. One possible cause for individuals or organizations doing less well than they should is the unwitting adoption of bad decision-making heuristics. We argue that the beauty or sexiness heuristic is often a bad heuristic which can yield sub-optimal outcomes. It is important to identify the circumstances in which the beauty or sexy heuristic can be expected or predicted to generate sub-optimal results in sports organizations and why such heuristics would nevertheless be adopted.

Two Components of the Beauty or Sexy Heuristic and Premium

One component of the beauty heuristic relates to the beauty or sexiness heuristic yielding a revenue premium. Individuals are willing to pay more because an athlete or sports physio, for example, is beautiful or sexy. This applies to both male and female employees. Having a beautiful athlete might attract more fans and more advertising income[3]. If a trainer is beautiful this would attract more clients, and these might even be willing to pay higher fees given that they are being serviced by a relatively beautiful individual, which yields them a higher level of utility. If employers believe that there is this type of beauty or sexiness premium paid by clients or fans, then employers will engage some athletes/employees who are beautiful or sexy. Beauty or sexiness becomes a heuristic here to identify revenue and, more importantly, profit enhancing employees. This assumes that the beautiful person is at least as qualified/productive/profit generating as the less beautiful individual. This can yield

[3] The role fans play in sports is well-articulated by Simons (2013).

a premium being paid to such individuals. If this assumption proves to be false, then this beauty premium is not matched by a compensating premium in terms of revenue—marginal revenue will exceed marginal cost. If more is paid based on beauty or sexiness, but these individuals are relatively less productive, the beauty or sexiness premium must at least cover the relatively lower income generated by the lower level of productivity. When beauty or sexiness proves to be a bad heuristic, one must identify why it is adopted in the first place and how it might be sustainable over time.

The Russian ex-tennis star Anna Kournikova, for example, became one of the most photographed and highest paid sporting celebrities, listed in 2002 by a monthly British men's lifestyle magazine as the "Sexiest Woman in the World"[4], despite failing to win a WTA title (Meier and Konjer 2015). Pfister (2015) uses the notion of "Kournikova syndrome" to reflect the resemblance to other stars and starlets in the entertainment business who generate income via self-marketing to capitalize on their looks and appearance[5]. Konjer et al. (2019) refer to "erotic capital", stressing that it might be more important for female athletes. Erotic capital[6] has been conceptualized as a fourth personal asset next to economic, cultural, and social capital (Hakim 2010), becoming one of the factors that affect social positioning in modern societies (Konjer et al. 2019). The Kournikova syndrome suggests that erotic capital in high-performance sport can be translated into economic capital via attracting public attention, sponsors, and advertisers (Mutz and Meier 2016)[7].

[4] FHM's 100 Sexiest Women (UK) - Wikipedia
[5] As other examples she mentions the gymnast Magadalena Brzeska or the boxer Regina Halmich.
[6] For a discussion on the erotic in sports see Guttmann (1997).
[7] Evidence indicates that both attractiveness and athletes' expertise are positively related to endorsement - event fitness or appropriateness (Fink et al. 2004; Cunningham et al. 2008). On the other hand, Meier and Konjer (2015) report evidence that does not support the idea that attractiveness compensates for lower sporting expertise (looking at German TV ratings for tennis games).

When beauty or sexiness is used as a selection criterion, with full knowledge that the employee will be less productive than the less beautiful or sexy alternative, such selection and the payment of the beauty premium can only be related to the additional utility that the employer garners from employing what he or she perceives as a beautiful or sexy employee. This should not be confused with a heuristic. It is not the same thing as using beauty or sexiness as a decision-making shortcut-heuristic to identify more productive, revenue generating employees. But it is analogous, as mentioned above, to Gary Becker's coefficient of discrimination wherein a racist or sexist employer will hire a man over a woman or a White person over a Black person – or will only hire women or Blacks at a lower rate of pay – because the employer experiences disutility from the employment of women or Blacks. The lower rate of pay compensates the employer for the disutility incurred. We discuss how this coefficient of discrimination or, relatedly, a beauty sexiness premium can persist over time[8].

A second component relates to beauty or sexiness as a proxy for performance as an athlete, trainer, physio, etc. An important issue that needs to be addressed is whether there should be a positive causal relationship between beauty or sexiness and productivity. This is separate and apart from component one above, wherein beauty and sexiness are assumed to drive revenue growth independent of any productivity differential between beautiful and less beautiful employees. In this latter case there is simply a premium on beauty. For the purposes of component two, one has the beauty heuristic where beauty and sexiness is defined traditionally – referencing the beauty or sexiness of the individual – and employers

[8] Mobius and Rosenblat's (2006) lab experiment looking at the labor market identified a sizable beauty premium that is affected by the available information, showing that controlling for confidence, physically attractive workers are wrongly considered more able by employers despite punishing employers in case of mis-predicting the employees' performances (lower earnings).

use this heuristic as a proxy for productivity. This heuristic can be used simply as a screening device to screen-in prospective more beautiful and sexy athletes, trainers, and coaches. But if it is anticipated that the more beautiful or sexy employee will be more productive, yielding higher revenue, then in this instance the heuristic is productivity-based even though it can also generate a beauty premium. It is a premium on relatively higher productivity. However, when beauty and sexiness is a bad heuristic, there is no systematic relationship between beauty and sexiness and productivity. This raises the question of the extent to which this type of bad heuristic can persist over time – and perhaps more importantly – if it does persist, it is necessary to understand how this might affect the performance of other employees and of the organization.

We also introduce the concept of beauty or sexiness as referencing certain characteristics of an individual that are supposed to be indicative of that individual's current and near future productivity (referred to as anthropomorphic characteristics). This is not the 'classic' beauty or sexiness referred to above. This type of heuristic is used to select athletes and employees in the health and fitness industry and has been subject to criticism, for example, in the *Moneyball* narrative (Lewis 2003). A bad or failed heuristic is one where the beauty heuristic, as defined above (anthropomorphic related beauty), fails as a proxy for productivity. Here too, one has a bad heuristic since it results in the hiring of sub-optimal, relatively poor performing employees (athletes and trainers, for example).

Sports Inefficiency and the Persistence of a Bad Beauty Heuristic

In conventional economics, inefficiency (apart from allocative inefficiency), is assumed to be eliminated through market forces or through the hardwired preferences of decision-makers to maximize profits. Therefore, there cannot be any big bills lying on the

sidewalk, by assumption (Olson 1996). But if the beauty or sexiness heuristic is a bad heuristic and fails as a proxy for productivity or another measure of success, then it would contribute to the existence of inefficiency and there *would* be big bills lying on the sidewalk. Relatedly, a failed heuristic would result in a less successful sports organization, the selection of athletes that are not optimal in performance now or in the future, and trainers and other sports professionals whose services are sub-optimal (yielding sub-optimal outcomes). These are related to the existence of inefficiency. However, in behavioural economics modelling, especially evidence-based modelling pioneered by Herbert Simon, inefficiency is recognized as a very real possibility. Therefore, one must specify the circumstances wherein inefficiency is likely and where it was not. Some of these specifications are noted in this book's chapter, "Sports Performance, Procedural Rationality, and Organizational Inefficiency."

Simon (1979, 509) underlines the importance of the existence of inefficiency or sub-optimal performance for the modelling of decision-making and of the firm:

> The presence of something like organizational slack in a model of the business firm introduces complexity in the firm's behavior in the short run. Since the firm may operate very far from any optimum, the slack serves as a buffer between the environment and the firm's decisions. Responses to environmental events can no longer be predicted simply by analyzing the "requirements of the situation," but depend on the specific decision processes that the firm employs. However well this characteristic of a business firm model corresponds to reality, it reduces the attractiveness of the model for many economists, who are reluctant to give up the process-independent predictions of classical theory, and who do not feel at home with the kind of empirical investigation that is required for disclosing actual real world decision processes. But there is another side to the matter. If, in the face of identical environmental conditions, different decision mechanisms can produce different firm

behaviors, this sensitivity of outcomes to process can have important consequences for analysis at the level of markets and the economy. Political economy, whether descriptive or normative, cannot remain indifferent to this source of variability in response.

Once inefficiency can persist over time or in the long run, then bad heuristics and other forms of sub-optimal behaviours can persist in the long run. Simply the adoption of the beauty or sexiness heuristic cannot be taken as evidence that it is optimal. The latter is sometimes implied in the fast and frugal narrative (Altman 2017b; Gigerenzer 2007). This point is elaborated upon by Leibenstein (1966) in his X-efficiency theory of the firm. In the latter, organizational slack[9] persists (hence, inefficiency) because product markets are imperfect (a realistic assumption) and, therefore, inefficient firms or organizations are protected from market forces[10]. This protection is required because market force changes are very costly. Such firms supplement the protection afforded to them by market imperfections with the successful lobbying of government for support in the form of protection and subsidies. For Leibenstein, firms are sub-optimal because economic agents, especially management, are not working as hard or smart as they potentially could. In other words, economic agents are not maximizing their effort in the production process, as they would in the conventional economic model[11]. Moreover, effort is a variable in the production function. This argument can be extended to all economic agents within the firm (Altman 2006).

[9] However, organizational slack can act as a buffer when the environment becomes less favourable (Cyert and March 1992). Tan and Peng (2003) in an empirical study undertaking in China find that an inverse U-shaped relationship between slack and performance.

[10] Leibenstein (1966) refers to X-inefficiency as being less productive than is practically possible given existing traditional factor inputs, holding technology constant. Maximizing productivity given traditional factor inputs yields X-efficiency in production.

[11] Here it is assumed that effort inputs are fixed at some maximum.

With respect to the use of bad or sub-optimal heuristics, sports organizations are not doing as well as they can because they are employing individuals based on perceived beauty and sexiness – and this results sub-optimal performance. A better heuristic would result in the employment of better performing individuals. This is not X-inefficiency in terms of sub-optimal effort inputs. Rather, bad heuristics results in a type of misallocation of labour resources in the economy through the employment of individuals who are not the best fit (sub-optimal) in terms of their performance, in both quantity and quality dimensions. Bad heuristics can, therefore, result in what would be traditionally referred to as lower productivity. Ceteris paribus, bad heuristics contribute to the making of inefficient organizations.

These inefficient organizations can persist in the long run if consumers, clients, and fans are willing to pay higher prices for the output of the relatively inefficient organizations so that they can meet their costs and their target rate of return. In this way, organizations can earn acceptable levels of profits or rates of return even if they are inefficient (if they are performing sub-optimally), in this case using bad heuristics to engage athletes or employees. Bad heuristics results in sub-optimal performance or lower levels of quality. This sub-optimal selection or promotion decision-making heuristic can also be compensated for by reducing costs in the organization. But this can be operationalized only if such cuts are not resulting in economic agents responding by becoming less productive. This would be expected, when effort is variable and employees retaliate by reducing the quality or quantity of their effort input (Akerlof 1982; Altman 2006; Leibenstein 1966).

The generalized model is of fundamental importance, as there can be multiple-equilibria across less efficient to more efficient organizations (Altman 2017a). Both efficient and inefficient firms can earn an acceptable rate of return through appropriate changes in

product price and input costs. There is no economic imperative towards some X-efficient optimum as would be the case in the conventional economic modelling (Altman 2006; Simon 1979). Bad heuristics can be sustainable both in the short and the long run. Of significance here is the importance of the willingness of consumers to a pay higher price for output and the ability to cut costs (without negatively impacting efficiency) when the beauty or sexiness heuristic is a bad or sub-optimal heuristic.

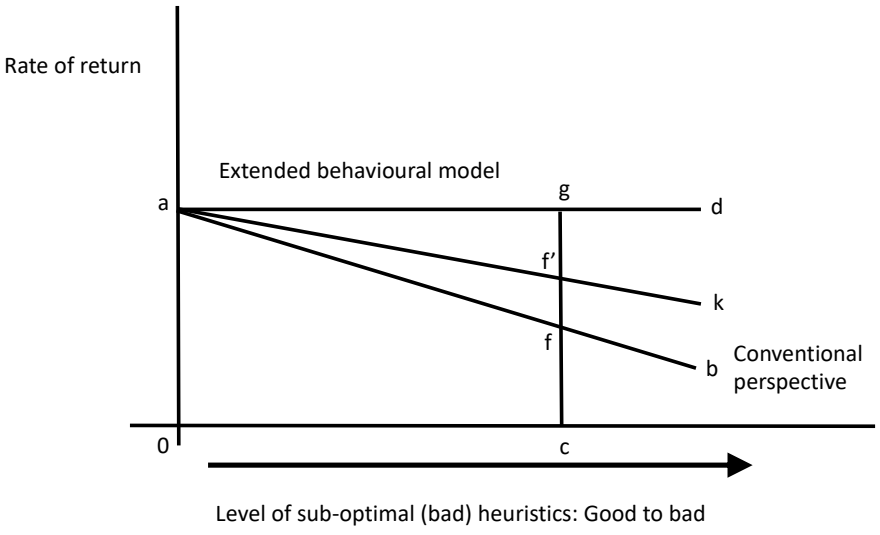
Bad heuristics can also persist when the source of sub-optimal performance cannot easily be identified. This is particularly the case given costly and asymmetric information, which characterizes a boundedly rational decision-making environment. This decision-making environment can protect sub-optimal decision-making even if it comes at a cost to the sports organization's or individual athlete's performance. Such inefficient outcomes can drive a sports organization into bankruptcy, but this need not drive a change in decision-making heuristics, if bad or sub-optimal heuristics cannot be identified. But to reiterate, such an organization can survive if clients (or fans) are willing to pay for outputs of poorly performing or X-inefficient organizations. Some of these points are illustrated in Figure 1.

0a represents the target, competitive, acceptable rate of return to our sports organization. The rate of return is given by some measure surplus (total revenue minus total cost) divided by costs. Total revenue is affected by price. In the conventional model, applying the best or optimal decision-making heuristics yields the highest rate of return, ceteris paribus. In our case, this is given by *0a*. When this heuristic becomes increasingly sub-optimal, the rate of return diminishes as one hires individuals whose performance falls increasingly below the optimal level, in terms of quantity and quality. This is given by *ab*. This diminishing rate of return is given by lower productivity and by a drop in price for an inferior output/performance. This drop in the rate of return is a function of the beauty or

sexiness heuristic not selecting the athletes and health and fitness professionals that are best. If the measure of the application of a bad heuristic is a measure of 'badness' at *0c* with the gap between the target and the actual rate of return being *fg*, this gap can be filled by increasing price or by reducing costs sufficiently. Customers, clients, and fans would have to be quite sensitive to a particular perception of beauty or sexiness if they were to pay a sufficiently higher price for sub-optimal output. Decreasing costs cannot be negated by negative productivity effects, which is what would be predicted by efficiency wage theory. When price increases and costs fall, this pivots our sub-optimal rate of return line from *ab* to *ak*.

Figure 1

Bad and Good Heuristics and Multiple Equilibria



Some Implications of Beauty and Sexiness as a Bad Heuristic

In the selection of athletes in professional sports, beauty or sexiness is not a proxy for excellence in performance and can yield sub-optimal performance or x-inefficiency in sports performance. Given the real world of bounded rationality, this can result in an error in decision-making; based on a false mental model (Altman 2014) as to the relationship between beauty and performance. The latter can be reinforced by herding wherein a decision-maker, in a world of asymmetric and costly information, adopts a heuristic (even if it turns out to be a bad heuristic) because other decision-makers, especially respected and leading decision-makers, adopt this heuristic. If one assumes smart, boundedly rational individuals who seek towards optimizing on performance outcomes, then one would expect that errors in decision-making would be corrected once underperformance is recognized and the source of this underperformance is identified. But obstacles to correcting errors in decision-making would include confirmation, self-serving, and sunk cost biases where the latter is related to the endowment effect, loss aversion, and status quo biases. Failure to abandon a bad heuristic would then result in continued underperformance by the sports organization. This is not sustainable unless customers are willing to pay a sufficiently higher price for a sub-optimal sports output.

Proposition One: Our model suggests that a bad beauty heuristic is unlikely to persist in the long run within an organization and errors in decision-making are likely to be corrected in this domain[12].

[12] A bad beauty heuristic may survive in specific niches as long as organizations are not challenged by a competitor. As Herbert (1997) points out, "survival only requires meeting the competition. In a system in which there are innumerable rents, of long-term and short-term duration, even egregious sub-optimality may permit survival" (p. 283). However, learning from suboptimal past decisions means that we adapt and revise our heuristics in response to negative feedback (Lo 2019). Organizations therefore learn from unfolding of events around them (Simon 1996).

If the beauty or sexiness heuristic is used in the selection of sports professionals such as trainers, physiotherapists, and exercise scientists, and does not result in the selection of the most qualified professionals, it can generate sub-optimal outcomes that can even yield injuries to clients or customers with immediate negative consequences to the organization. *If the employers' preferences are oriented towards providing the best possible service* (whilst meeting profit targets) then the sub-optimal outcomes can be expected to generate a correction to the error in decision-making which, in this instance, would be a by-product of adopting the beauty or sexiness heuristic. Otherwise, the beautiful or sexy employees can damage the profitability of the employer organization. What becomes of critical importance is the ability of employers to identify the sources of harm caused by inadequately qualified individuals (Altman 2020). Beauty or sexiness is, for example, not a component of due qualification for health and fitness professionals.

Proposition Two: If the employer of a health and fitness organization has the *provision of quality service, whilst maintaining a target rate of return* as her or his objective, using the beauty or sexiness heuristic will cease once the decision-maker realizes that this heuristic yields sub-optimal results. Therefore, one can predict that this heuristic should not persist over time.

If beauty and sexiness is used as a heuristic by clients in the health and fitness industry for excellence in service provision, this can result in sub-optimal outcomes when this heuristic is unrelated to the provision of quality service. But in a world of asymmetric and costly information, clients may not be able to identify if their beautiful health and fitness professionals are the source of the receipt of sub-optimal services. In this case, rational sub-standard health and fitness professionals will continue to provide their services to rational clients and generate sub-optimal health and fitness outcomes (Altman 2020).

Proposition Three: A bad beauty or sexiness heuristic used by clients can persist over time in a world of bounded rationality unless objective, easily identifiable, and respected standards/qualifications are required by health and fitness professionals (Altman 2020). If such requirements are in place, clients can identify beautiful or sexy health and fitness professionals who deliver sub-optimal services. In this instance, if the provision of high-quality services is the highest ranked preferred characteristic for the client, a beautiful or sexy health and fitness professional would only be chosen if she/he can be identified as providing high quality services. Under these conditions, one would expect that the beauty or sexiness heuristic would no longer be used as a heuristic to identify providers of the highest quality service.

The self-employed in the health and fitness industry might use beauty and sexiness as a method of selling their services. This is not the same thing as beauty and sexiness as a decision-making heuristic. But beauty or sexiness might signal to some the quality of service where clients use the beauty heuristic, as in the above, to identify quality health and fitness professionals. This heuristic can work for the self-employed in a world of asymmetric and costly information where clients cannot easily identify sub-optimal service providers. We are assuming here that there are clients who prefer the services provided by those who they identify as beautiful or sexy, conditional upon their services being of high quality.

Proposition Four: The self-employed can be expected to use beauty and sexiness to sell their services even if these services are sub-optimal, unless there are easily objective, easily identifiable, and respected standards/qualifications in place given bounded rationality.

Anthropometric characteristics (which we argue are similar to the beauty or sexy heuristic) as a heuristic for the athlete selection and to position athletes (in team sports) can

persist in the long run, even if it is not an optimal heuristic on its own for identifying optimal potential performance, given bounded rationality. This is the case when, in a world of bounded rationality, it is difficult to identify superior heuristics and the inappropriate use of anthropometric characteristics (in a narrow and isolated manner), and may then be a cause for sub-optimal sports performance. This point is similar to that made regarding proposition one above, and discussed in detail this book's chapter, "Moneyball and Decision-Making Heuristics: The Intersection of Statistics and Practical Expertise". As discussed above, with reference to Proposition One, once this heuristic is in place, decision-makers who favoured the use of this heuristic would be reluctant to change their preference for anthropometric characteristics as a core heuristic for athlete selection and positioning. Above we referenced the confirmation, self-serving, and sunk cost biases, the endowment effect, loss aversion, and status quo biases. However, one would expect that rational (smart, boundedly rational) decision-makers with a preference for optimizing sports performance would revise their decision-making heuristic when made aware of alternative heuristics. This amounts to improving their information set.

To the extent that anthropometric athlete selection and positioning yields sub-optimal results, this can be corrected for by providing decision-makers with alternative and superior heuristics. This requires a decision-making environment that is receptive to different approaches to athlete selection and positioning in the sports team. Improving decision-makers' information set is a necessary, but not sufficient condition for change to occur.

Proposition Five: Beauty or sexiness defined relative to anthropometric characteristics is assumed by many experts to be an optimal heuristic even if it is not. But this bad heuristic

can persist when it cannot easily be identified as a cause of relatively poor performance[13]. Given this, the leaders' decision-making biases contribute to the persistence of such a bad, sub-optimal heuristic. Policy that identifies the flaws in this heuristic can contribute towards positioning anthropometric characteristics into a more effective decision-making framework.

In some instances, beauty or sexiness of athletes or health and fitness professionals can be expected to yield higher income for their employers. This would be a type of beauty premium referenced by Hamermesh (2013). But in this instance, we are referring to a beauty premium to the sports organization. The beauty premium modelling requires a ceteris paribus caveat wherein one is assuming that performance of the beautiful or sexy athlete, for example, is *no less* 'productive' compared with her or his less beautiful or sexy counterpart. Put another way, one is assuming that the marginal product of the beautiful or sexy athlete is equal to that of the less beautiful or sexy athlete. In this case, a rational employer would hire beautiful or sexy athletes or health and fitness professionals up to the point that there is no marginal net benefit from so doing. Such hiring would not amount to discrimination in the sense that it is based on the predicted premium earned (and generated) by prospective beautiful or sexy athlete or employee. In this case, the beautiful or sexy prospect generates additional income to the organization. This could result in beautiful or sexy individuals dominating the sports market, which we know is not the case.

Proposition Six: If there is a market-based beauty or sexiness premium associated with being beautiful or sexy and one controls for productivity or performance outcomes, one would expect or predict that rational employers will engage the relatively more beautiful or sexy athletes or health and fitness professionals until the beauty or sexiness

[13] There are also endogenous elements. Better looking athletes may get more attention from their support staff people. If trainers expect better looking athletes to outperform others, they will devote more attention to them (kernel-of-truth hypothesis, see Eagly et al. 1991).

premium is dissipated. But the payment of this market-based premium becomes complex, given that it is difficult to disentangle the marginal revenue product contribution of each individual when productivity or performance is a function of the team. A beautiful or sexy individual might be generating the additional revenue only because she or he is part of a very productive team. If there is no such team, the productivity or performance level would fall, and it would be less likely that client, customers, or fans would pay a beauty premium in this instance.

Proposition Seven: One should not expect a beauty or sexiness premium to be paid on *economic grounds* if a beautiful or sexy athlete or health and fitness professional does not generate a premium in terms of marginal revenue product.

Non-Economic Aspects of a Beauty or Sexy Premium: A Matter Preferences

It is important to differentiate sports based on the individual athlete, such as tennis or golf, from team sports such as rugby, football (soccer), hockey, and baseball). With the former it is easier (low cost) to identify whether and the extent to which an individual earns a beauty and sexiness premium. However, it is also important not to confuse correlation with causation. A beautiful or sexy athlete or employee might generate a relatively high marginal revenue product. This might be because of their superior performance, not their beauty or sexiness. Hence, it is critically important to control for productivity or performance differences between beautiful and sexy and relatively less beautiful and sexy athletes and health and fitness professionals. Customers, clients, or fans might be paying not for beauty or sexiness, but rather for the quality of the output, be it an outstanding team performance or an outstanding service from a health and fitness professional. As

discussed above, when discussing the economic viability of a beauty or sexiness premium it is critically important to control for the productivity of the economic agent.

Proposition Eight: What might appear to be a beauty or sexiness premium might actually be payment for superior performance or service. It is, therefore, important to control for productivity when determining if what appears to be a premium for beauty or sexiness is truly a reward for superior performance.

There are other aspects of the beauty or sexiness premium that are unrelated to the productivity or performance of the athlete or the health and fitness professional. One relates to customers of health and fitness professionals who are willing to pay a higher price for the services provided by beautiful health and fitness professionals even if the service provided is of relatively low quality. The other aspect relates to employers willing to pay a higher price or premium for poorer performing athletes simply because they are regarded as beautiful or sexy. In both above cases, the marginal revenue product is below the marginal cost. From a narrow economics perspective this would be irrational since one is paying more than one should, based on fundamental economic criteria. The provision of this type of beauty or sexiness premium begs the question, discussed above, about the economic sustainability of the payment of such a premium when it is known to be economically inefficient.

The payment of a sub-optimal (from an economics point of view) beauty or sexiness premium can be modelled similarly to Gary Becker's modelling of his coefficient of discrimination; i.e., there is nothing irrational here. In our case, one simply has decision-makers whose utility is maximized by hiring beautiful or sexy people at a premium or paying health professionals at a premium even *when it is known* that their performance is sub-optimal. But how can paying individuals a non-productivity-based premium be consistent

with the survival of an organization? As we discussed above, an organization can survive on the market if customers, clients, or fans are willing to pay more (consistent with covering the premium) to maximize their utility where their preferences incorporate an 'eye' for beauty and sexiness. There would be an anticipated trade-off of more beauty or sexiness for poorer performance, but the strength of a such a preference needs to be tested empirically.

With respect to the health and fitness industry, for example, clients would be willing to pay more for the prospect of being served by a beautiful or sexy (female or male) health and fitness professional – and risk injury. There is no evidence that this is the case, but it is a question worthy of further empirical investigation. It is more likely that one has highly skilled beautiful or sexy professionals who receive a beauty or sexiness premium (e.g., via a selection effect). But here, as discussed above, one is not sacrificing on the quality of service. Related to this point, there is no widespread evidence that individuals are willing to pay a premium to a beautiful or sexy professional who is less skilled than a less beautiful and sexy professional. But the point we are making here is that if a client has a preference for beauty or sexiness one can expect a beauty premium to be paid, controlling for quality of service. This is part and parcel of the client's utility maximizing exercise. Once again, what is critically important is that a person might be willing to pay more for beauty or sexiness, if quality is not being sacrificed (too much) and therefore is good enough (satisfied with the quality). Beauty or sexiness here is, basically, an additional desired characteristic of a service being paid for (Becker and Murphy 1993).

Proposition Nine: A beauty or sexiness premium can be paid without any relationship productivity or revenue generation, based on the utility function or preferences of the employer, client, or customer. However, the sustainability of this approach very much

depends on the extent to which the payer is willing to self-sacrifice to achieve this end or the extent to which such a beauty premium can be subsidized by others.

One way to subsidize a beauty or sexiness premium is to underpay the less beautiful and sexy athletes and health and fitness professionals. If one assumes that effort input is fixed, this type of scenario is possible only if the lower paid but equally productive are unable to relocate to other firms who are willing to pay these individuals at a rate higher than they were paid in the firm that de facto discriminates by paying them below their marginal revenue product to subsidize the less productive but relatively more beautiful or sexy individuals. As in the Becker model, discrimination would result in a movement of the underpaid economic agents to higher paying positions, at least in the longer run, undermining the subsidies to the more highly paid beautiful or sexy athletes and health and fitness professionals. This requires the existence of an adequate supply of non-discriminatory employers.

Another point to note here is that given the existence of effort discretion – a reasonable real-world assumption – if the relatively less beautiful or sexy people are paid less than their more beautiful or sexy counterparts, this utility maximizing act of discrimination can result in the discriminated parties reducing their effort input to their organization (Altman 1995). This is an efficiency wage effect. This response reduces the performance of the sports organization as the discriminated individuals retaliate against the discriminators. This type of 'fairness' based behaviour is elaborated upon by Akerlof (1982). But once this occurs, the beauty or sexiness premium is no longer subsidized by the equally productive (but less beautiful or sexy) members of the sports organization. Discrimination here can only persist with customers, fans, and clients willing to pay more for the product or service. But even with such customer support, if this type of discriminatory behaviour

results in upsetting the performance of other members of the sports organization and, therefore, of the quality of service or performance provided, it is unlikely that the beauty or sexiness premium will be sustainable.

As discussed above, in this scenario, customers must be willing to pay for an increasingly substandard product for discriminating firms to survive. This could be especially harmful to clients in the health and fitness industry where injuries are more likely to occur (Altman 2020). At the same time, the market would be supplying a higher quality product at a lower price due to non-discriminating sports organizations, where no beauty or sexiness premium exists.

Proposition Ten: If the beauty or sexiness premium is subsidized by paying the less beautiful or sexy firm members at below their marginal revenue product, the expected efficiency wage effect related to being treated unfairly will undermine this type of subsidy.

Conclusion

We examine the hypothesis that beauty or sexiness can be used as an efficient fast and frugal heuristic in selecting the most potentially productive members of a sports organization and for clients to select best-practice health and fitness professionals. We also examine this hypothesis with respect to beauty as defined in relation to andromorphic characteristics of prospective members of a sports organization. We argue that much depends upon the revenue generating potential of such individuals. And, to the extent that this is an inefficient or bad heuristic, this will damage the organization that employs her or him, or the clients that contract the services of such an individual. This heuristic is sustainable to the extent that individuals cannot, at low cost, identify the objective performance of the relatively beautiful or sexy individuals. In a world of imperfect and

asymmetric information this requires policy that better identifies the objective potential and performance prospective and actual members of a sports organization.

The beauty premium (Hamermesh 2013) is related to the beauty or sexiness heuristic and has become a well-researched topic in economics. The payment of such a premium implies that in many instances beauty – and, one can extend this to sexiness – may yield a higher rate of pay to an employee or an economic agent within an organization. In this chapter, we explore this hypothesis from a theoretical and behavioural economics perspective, with regards to athletes, health and fitness professionals, and sports organizations. We bring to this analytical narrative a discussion of the conditions under which a beauty or sexiness premium can persist over time. We also introduce bounded rationality, efficiency wage, and X-efficiency to enrich the latter discussion and to better understand how a beauty or sexiness coefficient that is perceived to be discriminatory or unfair can negatively affect the quality and level of individual and organization performance. We also exploit Becker's theory of discrimination to better understand the beauty or sexiness premium as a function of the preferences of employers, clients, customers, and fans, and how this impacts the persistence and possible demise of this premium.

We argue that the beauty or sexiness premium is most likely to persist when it is consistent with the economic viability of a sports organization. At an individual level, this premium's longevity is causally linked with a client's willingness to pay. In both cases, the quality of output produced by the relatively beautiful or sexy individuals is of critical importance. Persistence is enhanced – even when output is sub-optimal – when employers, clients, customers, and fans cannot easily make causal links between such sub-optimal performance and the beautiful or sexy individuals who are being paid a beauty or sexiness premium. This identity problem is most likely given bounded rationality and various

decision-making 'biases' identified in this chapter, such as confirmation and status quo biases.

We argue that to isolate the importance of the beauty or sexiness premium, it is essential to control for productivity, quality, and the level of performance. It is unlikely that the typical employer, client, customer, or fan will pay a beauty or sexiness premium when output is known to be sub-optimal. In other words, one would expect a beauty or sexiness premium to be paid by individuals with a particular set of preferences as long as they are not sacrificing optimality of performance. To avoid situations where the beauty or sexiness premium is being paid under false pretences (sub-optimal performance) it is important for policy to be designed and implemented to provide quality and trustworthy information to employers, customers, clients, and fans on the level and quality of performance generated by the perceived relatively beautiful and sexy members of sports organizations. This would also increase the probability that the beauty or sexiness heuristic will not be applied when it is objectively sub-optimal.

Finally, the beauty and sexiness premium results in relative underpayment of those members of the sports organization who are perceived less beautiful and sexy. This is a form of Beckerian discrimination. We argue that when this form of differential payments is perceived to be unfair, the expected result is reduced productivity in both its quality and quantity dimension, damaging the competitiveness of the pertinent sports organization. The beauty and sexiness premium as a form of discriminatory and unfair treatment of members of a sports organization creates an incentive environment wherein this type of premium becomes increasingly unsustainable.

To reiterate, the beauty and sexiness premium is most sustainable when those in receipt of such a premium are generating the revenue sufficient to sustain this premium

whilst performing optimally or at least as well as other members of the sports organization. In this manner, the premium is being subsidized through the income sacrificed by individuals whose utility is increased by viewing or engaging the services of those they perceive to be relatively more beautiful or sexy.

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