

171 'Biofeedback' in developing fashion identity

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Key Words

Fashion identity, visual self-expression, biofeedback, observer, mirroring

Abstract

During the past few decades, the practice of Biofeedback has gained increasing prominence in medical circles due to the measurable and positive results it provides. Patients presenting various ailments, ranging from ADHD to Autism, have shown quantifiable improvements. The core of the Biofeedback process is to provide the observer-patient with information on their current state, measured with digital tools, and showing the observer the 'optimal' state they should 'aim towards'. In time, the observer-patient begins to mirror the 'optimal' state, thus, improving their existing condition and, in many cases, curing it.

The purpose of this paper is to begin to investigate the existence of such processes that happen on the unconscious level as presented by everyday people that may affect their fashion identity. The limited study presented here provides the basis for further exploratory investigation.

If the brain is in a constant state of observation, does it observe and recognise any type of 'feedback' on the state of its own visual self-expression? Does it 'autocorrect' itself? The first step is to investigate whether there is such a process of observation and autocorrection, and the second step is to explore the sources of the feedback, if such mechanisms exist, in shaping personal fashion identity.

Introduction: what is biofeedback

What is biofeedback? 'Biofeedback refers to any technique which uses instrumentation to give a person [or organism] immediate and continuing signals on changes in a bodily function that he is not usually conscious of.' (Sullivan, 1975: p. 38)

Biofeedback helps bring involuntary responses to the surface of consciousness and makes it easier to recognize and control them. Examples of involuntary response include breathing, heartbeat, sweating, and blood pressure. These involuntary responses are all controlled by the nervous system without conscious effort. Voluntary responses would include tasks such as running, picking up an object, and waving to a friend. People are usually unaware of involuntary responses. In contrast, they make a conscious choice in the case of voluntary responses.

There are several methods of obtaining biofeedback. One of the common methods includes electrodes attached to the patient's skin. These sensors send electric signals to an attached monitor, which displays the current state of the patient through signal, sound or visual information. At the same time, an optimum-desired state graph or additional information might be displayed that helps the patient compare their results to the desired state.

The observer

How does the brain observe? Does it constantly interpret the environment or 'turn on' when being prompted and remain 'dormant' the rest of the time? Scientists assumed that because it requires a great amount of energy for the brain to handle processes, it acts in a more discriminating manner in terms of what it recognises so as to save energy on non-essential observations. As a result, the brain only focuses on those processes that are of the most importance. (Keysers, 2009)

Jay Sanguinetti and his advisor Mary Peterson, a professor of psychology and director of the Cognitive Science Program at the University of Arizona (UA), and with John Allen, a UA professor of psychology, cognitive science, and neuroscience, conducted extensive new studies to monitor subjects' brainwaves with an electroencephalogram, or EEG, while their subjects were observing various presented objects. They concluded that the human brain recognizes everything. It processes all the information and then determines the best possible interpretation and what information should be released from the 'subconscious' level to the 'conscious' level. 'This is a window into what the brain is doing all the time,' Peterson said about the results of their studies. 'It's always sifting through a variety of possibilities and finding the best interpretation for what's out there. And the best interpretation may vary with the situation.' (Littin, 2013)

This information sheds light on the process of observation and demonstrates that the human brain is constantly in the process of observation, recognition, and filtering of information. The brain is continually bringing to the conscious level pieces of information that it is 'exposed to and able to recognize from before' as it simultaneously filters out information that it has no prior exposure to, even though it observed, recognised, and processed it on the subconscious level.

It may be concluded that the brain is constantly processing not only people in our environment but also media, architecture, shapes, colours, the way people dress, the way they groom themselves, etc., and not solely based on the 'familiarity' to push the information to the 'active consciousness.'

Hypothesis

Obvious tools of seeing self-reflection will be considered: mirror, photographs, and video. A 40-person questionnaire was conducted with the goal of finding out the dominant source as well as interviews with four individuals for more in-depth anecdotal evidence. The limited scope of these interviews requires further investigation but provides the basis for a larger study to take place.

Methods

Questionnaire made via Google Questionnaire but printed on paper and distributed to 40 individuals. This included males, females, non-binary, and transgender individuals in creative fields between 13-18 years old.

There were 10 questions, most of them with space for long answers:

1. How can you best describe your personal style?
2. Does your style reflect who you are on the inside fully or would you like to modify something?
3. What would be the ideal image of you that you'd like others to see?
4. What is the best way to observe your identity?
 - A. Mirror
 - B. Selfies
 - C. Video
 - D. Other (with given space)
5. Do you know how shapes, colors, textures, grooming, styling elements, and the accessories you wear effect other people's perception of you?
6. Do you know what clothes make you feel a certain way (sad, optimistic, happy, serious, collected, invincible, flirty, sexy, relaxed, etc.)?
7. Does the person you see in the mirror look the way you feel inside?
8. Do you take selfies?
9. Do you feel selfies help you shape your personal style?

And the main question was posed at the end:

10. What is the best way to get feedback on your style?
 - A. Mirror
 - B. Selfies
 - C. Friends
 - D. Other (with space given)

Results

The results of the questionnaire came back with an overwhelming majority of 75% stating that they rely on their friends, 7% answered in the other section with family, mom, or boyfriend. A relatively small 12% claimed it was the mirror, and only 6% chose selfies. Based on these results, it was evident that even participants in the creative field stated friends as a major source of feedback. This requires further investigation through in-depth interviews with older participants.

Additional information gathering and analysis through interviews

Interviewees were asked various questions in a conversational manner with a focus on their 'Fashion ID' and development journey. The main question of interest was, 'What was the defining moment, if you can recall, in your style development process?'. Older participants who had a well put together style were selected to see if with age comes more independent choices in clothing.

Film director, female, 55 years old: *In the beginning of my career, I was working as a PA on the film set with aspirations to be a film director one day. I was pretty comfortable and happy running around in my shorts and sneakers. One day I was casually chatting with the wardrobe supervisor, and she asked who I wanted to be when I grow up? I said that my goal is to be a director. She looked at me from head to toe and said, 'You'll never be a director running around in your shorts and sneakers.' That was harsh, but I realized she was not trying to offend me. She was being honest and basically telling me that I looked too 'weak,' and in the age where the industry was only dominated by male directors, appearing weak would not have a chance [for a female]. From that day on, I never wear shorts or shirts or sneakers! My uniform became dark pants with cool biker boots, which I tweaked a little bit when I was in New York by adding some chic jacket and scarf and more polished boots. In LA, I'd wear more casual-looking designer jeans, tee-shirts, and possibly a biker jacket that looked worn but read 'status' for the 'in-the know' Hollywood crowd. If you want to succeed in your chosen profession you need to dress the part and look like someone who has what it takes to do the job.*

It is striking that her 'Aha' moment came not from a mirror or photograph or reading some book, but rather is based on someone's earnest comment that she recognized as genuine and helped to form her Fashion Identity.

Chief Financial Officer, male, 52 years old: *I don't remember the exact moment, but my parents were both very strict about appearances. They said if I want to command respect, I cannot dress like a slob. They were a fashionable but conservative couple, but they were encouraging me to make money, buy high-quality products, and care for my clothes, look, and fit. It was not as much about 'expensive' clothes but more about the 'right' clothes, so I would fit nicely into the business society and sometimes even be just a tad better to convey status without being flashy or excessive. Even now I hate baggy clothes. Even on my days off I try to wear clothes from natural fibers that are body slimming and not overly baggy. I take care of my body and exercise, so there's no reason to wear baggy clothes.*

It's clear that his family was providing 'feedback,' which was part of his upbringing and culture and stayed with him for life as part of his Fashion Identity.

Investment Banker, male, 65 years old: *I was a poor kid and barely had money to cover my rent, so I could not even think about clothes. I was working on railway construction, so I can't even remember what I wore, but it was always dirty and baggy. At some point I realized that the girls I liked and wanted to be with didn't really care about poor railroad construction workers in dirty clothes. One even laughed that I should not stand too close or I'd make her clothes dirty. It made me really angry, but I could see her point. I decided to do a job where I only wore suits, like important people on Wall Street. I've heard the saying that 'clothes don't make the man,' but in all truth, I think they do... they absolutely do. In my early twenties, I was in the perfect physical shape with dirty clothes and no decent girl would talk to me. Now I am 65, but I wear Zegna. In all honesty, now, I don't really care about clothes, but I deal with high net worth clients, and if I don't convey a professional and status-conscious image with the right clothes, right watch, right car, and show that I*

am on their level, why would they trust me with their money? Now it's part of the lifestyle. I don't go to the gym in designer clothes, but I still can't look like a slob there as well since I might run into someone. I like being tidy as well, so I guess it is part of who I am now.

It's literally 'rags to riches,' and much like before, it is the same painful style of feedback coming from outside that helped shape his Fashion Identity.

Attorney, female, 45 years old: After law school, I was still getting the hang of navigating through my world. I had no clue about fashion nor cared about any of that 'frivolous' stuff. But a rude awakening came one day at the deposition when the opposing counsel made a crude remark asking if I was going to a tea party afterwards because I looked so 'cute.' I felt like I was struck by lightning. I was wearing a white shirt with embroidery that had some tucks and pleats, and I was feeling great about my choice to look 'feminine and confident.' However, all my confidence was gone in a second. Here I was playing with sharks, in a male-dominated profession, and I was trying to look cute and feminine. As a novice attorney that was not a wise choice. I could have put more thought into it, and I didn't, so I had to suffer the consequences. Now I wear slick and polished choices that don't have to be 'masculine' but still convey power. You still need to assert yourself and look professional with just the right touch of feminine softness for the jury to be sympathetic towards you and for you to command respect from the judge, opposing counsel, and your client. I think now I do think a lot about how I present myself in the world. In my free time, it's a different story. I like to wear boho and creative styles like Free People, thrift finds, athleisure pieces. I just think you need to be clear where you are and what you are trying to convey with your look.

In her storyline, she also mentioned the comment versus mirrors or photograph feedback, which in this case was an 'opposing' party who was trying to distract her and be demeaning. However, it put her on the path of finding her own style that is more in line with what she does.

Mirror neurons

Based on the 'validity' of the observation, the brain also fires mirror neurons which are 'multimodal association neurons that increase their activity during the execution of certain actions and while hearing or seeing corresponding actions being performed by others.' (Keysers, 2009)

The reason that we 'filter the impute' and fire up 'mirror neurons' is purely survival-based behavior. 'If we want to survive, we must understand the actions of others. Furthermore, without action understanding, social organisation is impossible. In the case of humans, there is another faculty that depends on the observation of others' actions: imitation learning. Unlike most species, we are able to learn by imitation, and this faculty is at the basis of human culture.' (Rizzolatti, 2004)

Mirror neurons also play a discriminating role on what we perceive as 'familiar' and 'safe' and 'foreign' and 'dangerous.' According to Christine Hsu, when we observe the movement of a person we dislike, our brain perceives these movements in a

slower mode versus someone who we like. The brain processes someone we dislike as a 'foreign and potential danger' and, thus, makes us be more observant in the way they move so we can prepare accordingly if they strike. On the other hand, someone who we 'like' and perceive as a friend does not require a special 'filter' or 'processing,' so we observe them in normal speed. (Hsu, 2012)

'Like' attracts 'like'

So how does our brain determine who we 'like' or 'dislike?' The traits for this determination can exist on all levels: physical, mental, and emotional. However, the first clue the brain processes is the visual reaction to physical familiarity, and thus, forming 'first impression judgments,' which last about 400 milliseconds according to Mary Peterson. 'There's a brain signature for meaningful processing,' Sanguinetti said. 'A peak in the averaged brainwaves called N400 indicates that the brain has recognized an object and associated it with a particular meaning.' Peterson adds, 'It happens about 400 milliseconds after the image is shown, less than a half a second.' (Littin, 2013) It takes time to recognise someone's emotional, mental, and spiritual views. As such, the visual reaction is the fastest way for the brain to begin discerning familiarity and unfamiliarity.

There is strong evidence of people being attracted to those who look like us not only as romantic partners, but on the level of friendship and work as well. 'It is a well-known finding that we choose friends who are similar to us in background and attitudes, a psychological phenomenon known as homophily.' However, recent research has found that the faces of group members are more similar than non-group members. In one of the studies, participants submitted photos of their friend's faces. Detailed measurement of the faces found that friends had more similar facial structures and features than compared to non-friends', according to Ronald E Riggio Ph.D (2017). Because perceived similarity leads to group formation, facial appearance may play an important and yet relatively overlooked role in determining group membership.' states Eric Hehman (2018). Interestingly, this understanding of attraction applies to pets, as well as to inanimate objects, such as cars, buildings, clothing, accessories, and so on.

Visual and physical factors are not the only form of attraction. People can be attracted to each other on an emotional level, such as liking the same music, enjoying the same sports, spiritual beliefs, political standpoints, and intellectual interests.

Whatever area of the brain is the most dominant in a particular person creates a stronger attraction pull. According to Neil Fleming (1995) there are four major sources, four sensory modalities for processing information:

1. Visual
2. Auditory
3. Physical
4. Social

Most often it's a combination of factors through a mix of dominant elements. The visual modality often tends to be more compelling because visuals are where the brain receives the most amount of information.

Addressing the opposites attract argument, it is usually opposite qualities that we would like to have that we find attractive: the ying to our yang that we aspire to and believe would make us 'whole.' The average person doesn't have all aspects in themselves presented as dominant traits, so partnerships are able to create a more balanced 'whole,' adding the necessary strengths to the unit while enhancing the existing core.

Conclusion

Of course, additional studies are required to fully determine the results, but from this small research study, it is evident that we construct and shape our identities, in this case Fashion Identities, based on feedback from the people around us.

A notion that goes in opposition of the thought that we 'individually' create our social selves, in this case Fashion Identities.

A social identity theory of group behavior (and the individual-group relationship) is introduced and from it are derived further theories of social influence and group polarization... It is shown in the social identity theory (theories) of group behavior. Social influence and group polarization explicitly assumes a functional interaction between psychological and social processes, in contrast to individualism, and at the same time generates distinctive, testable, empirical predictions. It is concluded that the social identity concept represents a mechanism of social-psychological interaction and as such demonstrates that social psychology need not be an individualistic.
(Turner, Oakes 1986)

Often we have selected those people based on how well they resemble us or who we want to be. In a twisted way, it reminds us of the story of Narcissus staring at her own image and getting 'feedback' from the mirror. Our 'mirror' is our friends and peers that we have selected based on how closely they resemble us, or how 'familiar' or 'aspirational' they are.

However, let's not forget about the outliers. Not everyone mentioned friends as their feedback source. What are the brains' mechanics that predispose us to one or the other way of relating to and reacting to our environment?

L. Festinger (1975) describes our relation to our surroundings and people based on a person's awareness levels. Awareness is what predisposes us to interactions and reactions to people in our environment. This includes how we function in the reality of modern society. Human beings continually adjust their mental attitudes and personal actions to fit into a perceived expectation. Such continual adjustments, between cognition and action, results in one of three relationships with reality as he explains they fall into three categories:

1. Irrelevant relationship: Cognitions or actions unrelated to each other
2. Consonant relationship: Cognitions or actions consistent with each other
3. Dissonant relationship: Cognitions or actions inconsistent with each other.

To 'translate' this for Fashion Identity research, three similar levels and types of people are proposed.

Level 1. (Irrelevant relationship)

Unaware dresser

Unconscious influence: people who are not self-aware about how they look and what impact it makes on others. These people have no idea why they are misfits and how to improve on this. Classic examples include Mark Zuckerberg, Einstein, Susan Boyle, fictional characters Ugly Betty, or Andrea Sachs from *The Devil Wears Prada*.

Level 2. (Consonant relationship)

Socially aware dresser

Conscious influence: these people are well aware about who influences them and who they want to emulate. They are trying to fit in with their chosen 'right' crowd, and they might even use social status symbols to one up others. Obvious examples include Steven Spielberg, Elon Musk, Ralph Lauren, Michelle Obama, and Jennifer Lawrence.

Level 3. (Dissonant relationship)

Creator

Conscious Disregard: people well-versed in visual self-expression and consciously trying not to fit in and embrace being different. This group includes the likes of Coco Chanel, Daphne Guinness, Isabella Blow, Karl Lagerfeld, Patti Smith, and John Galliano.

It requires more research and exploration, but there is a clear theory in development here. The essential lesson is that if you don't like your Fashion Identity, the easiest solution is to change your 'mirror,' or in our case, the people whose feedback influences you. The other and more challenging way would be to 'rise above' Biofeedback and become a creator.

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