Affective Forecasting:
What is it, and what influences can it have in a medical context?

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Affective Forecasting: What is it, and what influences does it have in a medical context?

1. Introduction

Affective forecasting is people’s predictions about their future emotions; this involves predicting the valence of the future’s emotions, the specific emotion that the event will evoke, the intensity of the emotion and how long that feeling will last.

Mixed findings surround affective forecasting; some studies imply that we are good at predicting our future emotional states, while in other situations we have been shown to be poor at making predictions.

2. Affective Forecasting: Can we accurately predict how we will feel?

Robinson and Clore (2001) demonstrate the ability of people to make accurate predictions of their future emotions. They gave people written descriptions of a set of emotional images and asked them to predict on 20 emotion scales how seeing the actual image would make them feel. In this case, it seemed that forecasters made very accurate forecasts of which emotion they would feel when seeing the images. This implies that we are actually very good at predicting our own future emotional states, however, in real life situations it is the case that emotions can occur as a complex blend and so people may fail to accurately predict the precise blend of emotions they will feel (Wilson and Gilbert 2003).

Other studies argue that we are particularly bad at predicting our future emotional states, and report that affective forecasts wrongly predict the duration or intensity of the predicted emotional state, which is where these previously mentioned biases have their influence. These biases are focalism (Wilson et al, 2000), durability bias and ‘immune neglect’ (Snell, Gibbs and Varey, 1995) which will all be discussed in turn.

3. Focalism

Wilson et al (2000) demonstrated focalism in college students. Two months prior to a football game, they asked students to rate how happy they would be if their team won the game. People predicted that their level of happiness would be above baseline, and on average that it would remain at this level for the three days following the victory. When later asked after the football game, it was revealed that their elevated happiness levels only lasted for one day after the victory of their team.

This demonstrates focalism well, as it is the tendency we have to focus on some specific feature of the future, without considering all of the other influences that can act on that event and on our emotions in the future (Rhodes and Strain 2008). Therefore, we tend to place too much importance on one future outcome and overestimate our emotional reaction to this outcome, as demonstrated by Fig 1.
4. **‘Immune Neglect’**

This is the extent to which people fail to account for their own coping mechanisms or abilities, and how these work to allow us to cope with difficult situations or bad news (Gilbert et al, 1998, Hoerger et al 2012). When people do cope better than they expect they tend to attribute their coping ability to something outside of themselves, an external cause, a good example of this is people being given strength by God. They also give an example of immune neglect; they use the example of people feeling they were able to cope with the disaster of Hurricane Katrina after it had occurred. This contrasts to when people are asked how they will cope before a disaster happens, as their coping abilities are not taken into account.

5. **Impact Bias**

Impact bias occurs when people overestimate the happiness caused by future events. This is demonstrated once again through college students who overestimate how happy or unhappy they would feel if they were placed in a desirable or undesirable dormitory when starting college, but when asked a year later both groups showed equal levels of happiness (Dunn, Wilson and Gilbert, 2003).

6. **The influence of affective forecasting biases in medical decision making.**

Focalism affects everyone; it is a part of ‘normal’ mental activity (Rhodes and Strain, 2008). In a healthcare context it can influence important medical decisions, which can cause problems for patients and doctors when it comes to making decisions about treatment.

6.1 **The influence of affective forecasting biases on patients’ decisions.**

In terms of patients, reactions to diagnoses and prognoses are influenced by focalism. Patients have a tendency to overestimate the duration of negative feelings they will have, and tend to ignore other aspects of their lives. It is the case that patients who receive negative diagnoses or prognoses manage to live their lives rather normally (e.g. Broadstock et al, 2004). Patients quickly make decisions about how they will cope with declines in health (Halpern and Arnold, 2008), there has been noticeable
differences between patient and healthy control ratings of how they will cope with declines in health (Ubel et al 2005).

Affective forecasting plays a role in patients’ choice of treatment, when considering this it is difficult for the patient as they may not be aware of the emotional impact each treatment option has. Research has been conducted which tells patients the outcomes of various treatments, and they find this highly beneficial in making their treatment choice. Therefore, clinicians are encouraged to discuss the implications of treatment, as this will minimise any effects of focalism as patients are fully aware of the emotional impact other patients have experienced, and they are able to make more informed decision based on their knowledge of their own coping abilities (Blumenthal, 2005).

6.2 The influence of affective forecasting biases on the family of patients

The family of patients are also subject to the effects of focalism, as it causes family to believe that the patient will not be able to handle any kind of negative diagnoses or prognoses. Specifically, it seems that focalism affects families in terms of them not thinking the patient is strong enough to deal with the bad news, and the fear that they will simply lose the will to live (Rhodes and Strain, 2008). When, again, patients have in fact been shown to be able to move on from bad prognoses and be able to live their life as normal using coping mechanisms which we all possess.

6.3. The influence of affective forecasting biases on Doctors and Medical Professionals.

Possibly the most vital person involved in medical decision making is the doctor, so it is worrying to think that doctors are just as easily influenced by focalism as patients and their families. Families who claim that the patient cannot deal with bad news may have an influence on doctors’ decision as to whether the patient should be told. It is suggested that focalism can affect the doctor-patient relationship, if the doctor is seen to be blunt when delivering bad news it can lead to the patient seeking medical treatment from a different doctor who has better ‘bedside manner’ (Rhodes and Strain, 2008).

6.4. Influences of biases in affective forecasting on policy makers

Many associations have decided that children should not be tested for genetic conditions with adult onset, even though in some cases parents want to have this knowledge. This view stands despite there being proof that children can adjust to knowledge about a condition and can adjust to other fatal prognoses (Rhoades and Strain, 2008), the case of genetic testing will be later discussed as part of an ethical argument.

7. The Dangers of Affective Forecasting: Genetic Testing

Currently, the American Academy of Paediatrics (2005) holds the view that:
“Testing in childhood inappropriately eliminates the possibility of future autonomous choice by the person and risks stigma and discrimination. Unless there is anticipated benefit for the child, paediatricians should decline requests from parents or guardians to obtain predisposition genetic testing until the child has the capacity to make the choice.”

Ross and Moon (2000)

Viewed in terms of affective forecasting, it can be seen that those who make the policies are affected by affective forecasting biases as it seems that they over-predict the duration of the children’s emotional reaction. It is known that children can adapt to familial disorders that may affect them in childhood, and children with severe conditions such as paralysis or epilepsy are able to adapt to their conditions.

Guidelines have been developed which emphasise the importance of having full informed consent from parents when testing their children for genetic diseases, so aspects of the psychological, social and medical implications must be considered for each individual being tested. These guidelines split genetic testing into loose categories: diseases with adult onset, diseases with childhood/adolescent onset, diseases which have beneficial medical interventions and those which do not. Consideration of these categories when decided whether to test a child is highly important (Harper and Clarke, 1990). The Clinical Genetics Society (1994) and the American Society of Human Genetics (1995) have published guidelines addressing issues surrounding the genetic testing of children. But could these associations be viewed as being victim to forecasting biases? They do not advise genetic testing based on the impact it could have on the child, but children have been shown to be able to come to terms with negative diagnoses, so this leaves no evidence that children would not be able to adjust to results of genetic testing.

When it comes to diseases which begin in adulthood, the two associations mentioned previously and the Genetic Interest Group, all advise against testing for diseases which have an adult onset. This adversity to genetic testing for adult-onset diseases is stronger in cases where no medical interventions are available in childhood. Contrastingly, when testing for diseases which have a childhood or adolescent onset, the associations previously mentioned are much more relaxed. It is emphasised that the most important aspect to consider is getting a good balance between the psychosocial benefits and harms caused by the result of testing.

Table 1. The benefits and harms which need considering thoroughly before making any decision about genetically testing a child.

<table>
<thead>
<tr>
<th>Harms</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Development of a perception that the child is ‘ill’,</td>
<td>Minimises the possibility of serious</td>
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resulting in negative parental attitudes towards child psychological maladjustment later in life as a result of discovery

| Low self-esteem in the child | Decreased parental and child anxiety |
| Serious psychological maladjustment, resulting in depression or suicide | Decreased uncertainty about the future |
| Parental guilt | More realistic life choices can be made by the child due to awareness |
| Social discrimination, affecting employment and insurance | Elimination of risk |
| | More openness within the family and society about genetic conditions |

Table from Robertson and Savulescu (2001)

Other ethical issues which consideration needs to involve the role of the child in making the decision to be tested. It is commonly assumed that the parents would be the best person to make any medical decisions on behalf of the child, as they would have the child’s best interests in mind. It is also the case that parents also have all control over their child’s medical decisions, but should young children have a say in whether they want testing? Recently, the child’s opinion on being tested is taken into consideration more than in the past. Generally, it seems to be the case that medical professionals rely on parents for a decision, while being open to the child’s opinion (Ross and Moon, 2000). The American Academy of Paediatrics has the opinion that it is not always the case in which the parents’ decision should be taken as final, and they should not be able to make the decision on the child’s behalf. Similarly, it can easily be seen that biases in affective forecasting could play an important role in making decisions about genetic testing. This can especially be seen in parent’s inferring immune neglect to their child, that is that they assume their child does not have the coping mechanisms to deal with the results of the test. It can also be suggested that parents’ overestimate the negative effect that results could have on themselves and on their children.

A study which implies that children and their parents are actually able to cope well with results investigates the psychological effect of the results of genetic testing on parents and children (Codori et al, 1996). They found that genetic testing did not lead to any form of significant psychological symptoms in children who were tested, or in their parents. However, in this there was no long-term follow up, but both studies showed that children were able to cope with the results of genetic testing, as were their parents. However, this study does question the policy which states that children should only be subject to genetic testing in rare situations. Duncan et al (2005) also showed that despite these results, clinicians still hold the view that children should not be genetically tested. This suggests that, although parents’ may predict bad reactions and ignore any coping ability themselves and their child.
has, both parents and children are able to adjust effectively in response to results. Supporting this, it had been found that children can cope better with concrete and honest information about diagnoses if it is available, as opposed to living with the uncertainty of not knowing (Slavin et al, 1982). This all suggest that children are more able to cope with results and bad news than parents may think, children can come to terms with bad news and can continue to live a normal life despite knowing about a genetic disease which they will develop later in life. This seems to be quite the opposite to the view which policy makers and parents have of children, which tends to be that they would struggle to cope.

There have been arguments that testing children for adult onset diseases provides no benefit to the tested child. However, it has also been shown that deceiving or withholding information can be harmful to children. The American Academy of Paediatrics has guideline on the age by which children should be told that they are adopted (MacIntyre, 1990) and even that they are dying. This suggests that this type of rule could apply to the case of genetic testing in children for adult onset diseases.

There are further arguments which suggest that policies surrounding genetic testing should be changed, for example it creates an uneasy environment for the child if they are not told they are potentially at risk of some adult onset disease. Telling children also allows them to take in the information and be more accepting of it, if this information is discovered later in life it can affect the individual’s sense of identity (Rhodes, 2006).

7.1 Huntington’s Disease

Huntington’s disease has been used as an example to show that policies surrounding genetic testing should be assessed, currently it stands that children who may be at risk should not be tested for the disease (Bolam, 1957; from Clarke, 1994).

There are many reasons suggested as to why it is best not to test people, for example it is suggested that the knowledge that the test provides will be burdensome for the individual and the family involved (Huggins et al, 1990). Other reasons are similar to those displayed in table 1 for generic genetic testing. However, this means that the advantages of being tested are also shared with Huntington’s disease, and so it seems that it is the case that each case needs considering individually in terms of benefits versus costs. An added advantage in terms of Huntington’s disease is that, as it is a familial disease, one individual being tested means it may lead to other family members subsequently wanting to be tested. Suthers et al (2005) found that one of the most important aspects of an individual being tested for Huntington’s disease is the opportunity to contact relatives to be tested. As a result of contacting relatives they found that the number of people opting to be tested almost doubled in two years. This shows that although affective forecasting may lead to predictions of not being able to cope, but this may not outweigh the advantages of being tested.
Those who were tested for Huntington’s disease, their initial response was negative, but over time they adjusted to the information and reported being happy that they had been tested as it removes uncertainty. Those who were to be tested also predicted exaggerated views of how negative getting the results would make them feel. People had made life decisions as they thought it was certain that they would have the disease (Rhoades, 2006).

Wiggins et al (1992) looked into a group of people who were to be tested for Huntington’s disease, and found that predictive testing can improve the psychological wellbeing of those at risk. Those who were categorised as being in an ‘increased risk’ group did not necessarily show the same psychological benefit, but they also did not react to the test in a negative manner. If this is the case, it shows the extremely large influence that biases such as focalism are having on policy makers, as the rules on genetic testing have not been changed despite positive evidence as that discussed above.

An important consideration, however, when considering genetic testing in Huntington’s disease is the fact that it is strongly argued that diseases which currently have no effective medical interventions should not be tested for. However, this could be another result of affective forecasting biases as again it seems that coping mechanisms could be underestimated and negative reactions to results could be overestimated.

8. **What can we do to make medical decisions more accurate?**

Can forecasting method be improved? The findings from Hoerger (2012) have some implications which could lead to improving forecasting. In particular, immune neglect was found to be greater for immediate emotional reactions. This suggests that possible interventions for improving forecasting, both in medical contexts and non-medical contexts could focus on increasing awareness of how coping influences immediate emotional reactions.

An interesting idea on how affective forecasts can be improved is by taking advice from others. Gilbert et al (2009) used dating to demonstrate this, men and women had brief conversations. After the initial conversation, the woman was taken to another room and asked how much she had enjoyed the date. Then, a different woman was given either ‘simulation’ or ‘surrogation’ information. Simulation information was the man’s personal profile and a photograph, and surrogation information was the report of the date given by the first woman. The woman was then asked to make a prediction about how she would feel on her date with this man, and was then given the source of information she had not already received. In a second experiment, they were given more specific descriptions by the surrogates, in that they could be described as A, B or C personalities. Overall, it was seen that women were able to predict how they would feel on the date more accurately if they knew how another woman felt when she was on the date. In everyday life, we receive much surrogate information and so our use of this kind of information may be more in real life than is suggested by this experiment.
(Gilbert et al, 2009). This implies that if we correctly use the surrogate information, we may be able to improve the quality of our own affective forecasts. This would be extremely useful for parents trying to make a decision about genetic testing, as it would be useful for parents to hear from other parents who have been through the same situation.

Another idea about how to improve affective forecasting is to increase emotional intelligence. It has been found that those with high emotional intelligence made more accurate forecasts compared to those of low emotional intelligence. It was found that ‘emotion management’ was highly correlated with making accurate affective forecasts, and is a component used to refer to a person’s ability to cope with negative emotions. It is thought that those with high levels of emotion management ability have an understanding that an event does not simply lead to them experiencing one emotion (Dunn et al 2007). Thus, increasing levels of emotion management, or the ability to cope with negative experiences, may increase the accuracy of people’s affective forecasts. This would be a method that would produce long lasting effects on people’s predictions and so may be the best way of attempting to improve affective forecasting in the long term.

Another idea on how affective forecasting could be improved comes from Ubel et al (2005) who asked jurors to consider how they could adapt to becoming paralysed or having a disability. Some were first asked to reflect on how they have coped with negative situations previously, those who were asked to reflect before giving their answer then gave responses indicating a higher quality of life following a disability. This implies that a simple intervention involving reflecting on their adaptation skills in the past could lead to a reduction in immune neglect (Ubel et al, 2005). However, in cases of genetic testing this would be difficult as it is a very unique situation to be in and is one that the parents are unlikely to have experienced previously.

It seems that there are many ways to improve affective forecasting, but it has been suggested that they all take time to implement these interventions. It has also been found that some interventions seem to work in some affective forecasting situations but not in others, and others have been shown to fail to improve forecasting at all.

9. Conclusions

In conclusion, it seems that affective forecasting biases are something that affects everyone; we are all subject to focalism, impact bias and immune neglect biases.

In medical decision making, we are still victim to these biases. There are ways of reducing the biases which have been shown to improve the accuracy of forecasts. Using interventions, such as those discussed previously, could also be useful in more everyday situations. It is suggested that making more accurate predictions about our emotions can make us happier, as we will not be disappointed by
incorrectly predicting the amount of happiness that we will feel in response to an event. It is also suggested that making more accurate predictions of the future leaves people more able to adapt better to predictions of loss in the future (Lang et al, 2012).

In the case of genetic testing it seems that interventions need to be used to allow the parents to weigh up all costs and benefits, and to reduce the effect of forecasting biases. Parents need to be fully informed of all details, and possibly policy makers should be made aware of the coping abilities children do possess and policies on genetic testing should be evaluated; possibly to suggest that each case should be considered individually.

Overall, it seems that improving forecasting would be beneficial in a range of situations. However, to do this more reliable and more easily implemented interventions would need to be developed. Once this is done, there is a range of practical situations in which this could be useful such as in the legal profession, in predicting the course of relationships and in making end of life decisions. Not to mention the influence that affective forecasting has in everyday decisions, such as career decisions and whether to donate to charity, as these decisions are made based on how we expect making that decision will make us feel.

References:


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