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Negative Affect and the Good Life:

On the Cognitive, Motivational and Interpersonal Benefits of Negative Mood

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Abstract

Philosophers and writers have long realised that living well does not necessarily involve a permanent state of bliss. Indeed, the representation, cultivation and understanding of negative affective states has long been a hallmark of western culture and civilization, and most great works of art and literature were created in states of dysphoria rather than happiness. The human affective repertoire features more negative than positive states, many with an obvious adaptive purpose. This paper reviews recent evidence for the benefits of negative affect for thinking and behavior, consistent with evolutionary theories suggesting an adaptive function for *all* affective states. Numerous experiments will be described demonstrating that negative affect can improve memory performance, reduce judgmental errors, improve motivation and result in more effective interpersonal strategies. These findings are interpreted in terms of dual-process theories that predict that positive affect promotes more assimilative, open and internally focused processing styles, while negative affect promotes a more accommodative, and externally focused thinking strategy. The theoretical relevance of these findings for recent affect-cognition models will be discussed, and the practical implications of recognizing the adaptive benefits of negative affect for social thinking and performance in a number of applied fields will be considered.

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Introduction

How to live well? Fluctuating mood states are obviously a critically important aspect of living a good life. We also know that human beings are an amazingly moody species. Our daily lives are accompanied by an ever-shifting spectrum of affective reactions, and such fluctuating affective states subtly colour and filter everything we think and do during our waking hours. We still don't know enough about the role of affective states in guiding our reactions to the manifold challenges of everyday life. In particular, the possible adaptive benefits of temporary experiences of mild negative mood states are poorly understood. Yet in terms of evolutionary theories, we would do well to assume that all affective reactions serve important adaptive functions, operating in essence like pre-ordained functional 'mind modules' that spontaneously spring into action in response to various environmental contingencies (Forgas, Haselton & von Hippel, 2007; Frijda, 1986; Tooby & Cosmides, 1992).

This chapter will advocate a somewhat unusual answer to the question of how to live well. Rather than seeking unrelenting happiness, the 'good life' is more readily attainable if we accept, and learn to handle and benefit from occasional negative affective states. In support of this position, the chapter will describe extensive empirical evidence documenting the often

On Positive and Negative Affect

Advocating the acceptance rather than the elimination of negative affect might at first sight appear counterintuitive. Negative affective states are by necessity unpleasant, an-hedonic. And yet, human beings evolved a very wide range of negative affective reactions to various environmental challenges, and so it is plausible to assume that even aversive affective states serve some beneficial adaptive purpose. In the case of some of the intense, distinct emotions such as anger, fear or disgust we do know what their adaptive purpose is to overcome obstacles, to avoid dangers, and to reject harmful stimuli, respectively. Yet what can we make of the purpose of perhaps the most ubiquitous and problematic negative affect, sadness?

In contemporary Western culture experiences of sadness are often considered unnecessary and dysfunctional. Most bookshops have shelves full of self-help books promoting the benefits of positive thinking, positive attitudes and positive behaviors. We tend to consign negative affect in general, and sadness in particular to the category of undesirable 'problem emotions' that need to be controlled or eliminated if possible.

Much of clinical and counselling psychology is devoted to managing negative affectivity and alleviating sadness. Yet, it seems that some degree of sadness and melancholia has been far more accepted in previous historical epochs than is the case today (Sedikides, Wildschut, Arndt & Routledge, 2006). From the classic philosophers through Shakespeare to the works of Chekhov, Ibsen and the great novels of the 19th century, exploring the landscape of sadness, longing and melancholia has long been considered instructive, and indeed ennobling. It is only in the last few decades that a veritable industry promoting the cult of positivity has managed to eliminate this earlier and more balanced view of the landscape of human affectivity. Even though sadness is probably the most common of all our negative affective states, it is also the one whose possible adaptive functions still remain puzzling and poorly understood (Ciarrochi, Forgas & Mayer, 2006).

Of course, in historical terms negative emotions have always been with us, and it may be instructive to consider how other cultures, at other times handled negative affect. We find that many of the greatest achievements of the human mind and spirit were actually borne out of sadness, dysphoria and even enduring depression. Many of the classic works of Western culture and civilization in particular also deal with the evocation, rehearsal and even cultivation of negative feelings and emotions. Greek tragedies famously had as their cultural objective to expose, and train their audiences in accepting and dealing with inevitable misfortune. There are more Greek tragedies than there are comedies, and Shakespeare's greatest works are also tragedies rather than comedies. It seems that hilarity generally comes a distant second to seriousness and themes of adversity and sadness in most great literature and art. One of the possible benefits of negative affect may have to do with its interpersonal functions. Evolutionary psychologists, puzzled by the ubiquity of dysphoria, have speculated that negative affect may provide hidden social benefits by possibly arousing interpersonal sympathy, and reducing the likelihood of interpersonal challenges and competition (Forgas, Haselton & von Hippel, 2007; Tooby & Cosmides, 1992).

Philosophical antecedents

It seems then that dealing with negative affect and what it tells us about the human condition has long been the focus of many artists and writers. Yet, a far more obvious and less subtle interest has been the explicit search for happiness; the philosophy of hedonism has also been an enduring theme in human affairs.

Hedonism, the seeking of pleasure and avoidance of pain is one of the most influential simple and sovereign principles in all of psychology; the reinforcement principle is just one reincarnation of this ancient idea (Allport, 1985). Siduri in the Epic of Gilgamesh, perhaps the first literary work ever, argued that seeking happiness is the universal task of humans. Democritus and the Cyrenaic school developed a hedonistic philosophy suggesting seeking the good life involves exercising wise judgement to obtain pleasures such through love, friendship, altruism and justice. Perhaps the most influential exponent of hedonism was Epicurus (c. 341–c. 270 BC) who thought that living well involves using knowledge and judgment to seek modest, sustainable "pleasure" and tranquility and freedom from anxiety. His advice about how to live well is still part of modern psychology as several chapters here illustrate.

Hedonism re-appears in 18th century philosophy as utilitarianism, an ethical system that argues that the value of all actions can be determined by assessing its consequences in terms of contributing to human happiness, or increasing suffering. Although measuring hedonistic outcomes is far from simple, as Jeremy Bentham recognised, there are contemporary ideas to adopt similar principles to inform social policy.

Hedonism in our very own age is rather different in that rather than focusing on stable, rational and achievable long-term happiness, we often emphasize the importance of easy, simple and readily obtainable pleasure. Obviously the requirements of advertising and marketing promoting instantly available material consumption – offering the illusion of purchasable happiness – have a great deal to do with this. This incessant individual and cultural pursuit of easy happiness, driven in no small measure by manipulative advertising and marketing messages creates hedonistic expectations that are probably impossible to fulfil, and possibly, cause more grief than happiness.

Whereas hedonism emphasizes contentment and happiness as a means of living well, a complementary philosophical approach, *stoicism*, sets an alternative goal: to learn to anticipate and accept inevitable negative outcomes in our lives. The message of stoicism, accepting inevitable negativity, is philosophically close to the main message of this chapter. Stoics such as Zeno emphasized the development of insight and self-control as a means of living well. By clear and unbiased thinking humans can learn to recognise and accept the natural order of the world and so remain content even in the face of adversity. Stoicism also emphasizes the importance on internal control and rational thinking. It is a philosophy of acceptance, and remained popular throughout the ancient world for centuries. Its teachings are still part of contemporary thinking and bear strong resemblance to various Eastern philosophies emphasizing self-control and mindfulness that are nowadays also part of the message of positive psychology.

Affect, Cognition and Well-Being

Within our own discipline, social psychology, the study of affect remained relatively neglected until quite recently. Of the historical tripartite division of the human mind into

cognition, affect and conation, affect was the last to be explored. This may be partly due to the ancient idea going back to Plato that affect represents a more primitive, dangerous and invasive force that is incompatible with rational thinking and behaviour. Freud's psychoanalytic speculations further entrenched the view of affect is a dangerous, primeval force that needs to be controlled. Fortunately, the last few decades saw a radical revision of this view. Steady advances in neuro-science confirmed that affect is often an essential adaptive component of responding adaptively to environmental challenges (Adolphs & Damasio, 2001; Forgas, 1995, 2002; Frijda, 1986).

The evidence to be considered here will show that negative affect in general and sadness in particular also have important adaptive consequences by spontaneously triggering cognitive, motivational and behavioral strategies that are well suited to dealing with the requirements of demanding social situations (Frijda, 1986). Of course, positive affect also has many adaptive and beneficial consequences, such as promoting flexibility, creativity, confidence, co-operation, and life satisfaction (Forgas, 1994, 1998a,b; 2002; Forgas & George, 2001; Frederickson, this volume). However, many empirical studies now also demonstrate that moods such as sadness may often recruit a more attentive, accommodating thinking style that produces superior outcomes when detailed, externally oriented, inductive thinking is required (Bless & Fiedler, 2006; Forgas & Eich, 2012). This prediction is broadly consistent with evolutionary, functionalist theories of affect that argue that affective states "exist for the sake of signalling states of the world that have to be responded to" (Frijda, 1988, p. 354).

In this research program we focused on mild temporary moods effects rather than on distinct emotions, as moods are more common, context-free and enduring and also produce more robust and reliable cognitive and behavioral effects than do context-specific emotions (Forgas, 2002, 2006). Moods may be defined as low-intensity, diffuse and relatively enduring affective states without a salient antecedent cause and therefore little conscious cognitive content. In contrast, emotions are more intense, short-lived and usually have a definite cause and conscious cognitive content (Forgas, 1995, 2002). We will begin with a brief review of theoretical approaches linking affect and cognition, before turning to a review of a number of experiments demonstrating the beneficial effects of negative affective states for cognition and behavior. The role of different information processing strategies in mediating these effects will receive special attention.

Theoretical frameworks

Contemporary theories show that affect can influence cognition and ultimately behavior through two kinds of mechanisms: (1) *informational effects* (such as affect congruence) occur when affect colors the valence of information, and (2) *processing effects* occur when affect influences the way information is processed.

Informational Effects. The informational influence of affect on the valence of cognition may be due to *affect priming* or *affect-as-information* mechanisms. According to the *affect-priming account* (Bower, 1981), affect is linked to an associative network of memory associations, and may selectively prime affect-congruent contents and ideas. For example, a positive mood improves the selective recall of mood-congruent details from the past (Bower, 1981). Greater access to mood-congruent constructs can also influence the valence of constructive social judgments and impressions (Forgas, Bower & Krantz, 1984; Forgas & Bower, 1987). However, as predicted by the affect Infusion Model (Forgas, 1995, 2002) and confirmed by numerous studies, affect priming is most likely to occur when a task requires open, constructive processing (e.g., Bower & Forgas, 2001; Forgas, 2002; Forgas & Eich, 2012).

A complementary *affect-as-information* (AAI) model was outlined by Schwarz and Clore (1988; Clore, Schwarz & Conway, 1994) suggesting that "rather than computing a judgment on the basis of recalled features of a target, individuals may ... ask themselves: 'how do I feel about it? [and] in doing so, they may mistake feelings due to a pre-existing state as a reaction to the target' (Schwarz, 1990, p. 529). In those terms, affect congruence is caused by an inferential error, when people misattribute a pre-existing affective state as relevant to an unrelated social stimulus. This prediction mirrors earlier conditioning theories (Clore & Byrne, 1974). Such affective misattribution is most likely when "the task is of little personal relevance, when little other information is available, when problems are too complex to be solved systematically, and when time or attentional resources are limited" (Fiedler, 2001, p. 175)., as is the case, for example, when people are asked to perform personally uninvolved off-the-cuff judgments (Forgas & Moylan, 1987; Schwarz & Clore, 1988).

Processing Effects. Affect may also influence *information processing styles*, that is, *how* people think (Clark & Isen, 1982; Fiedler & Forgas, 1988; Forgas, 2002). Positive mood was first thought to lead to less effortful processing (Clark & Isen, 1982; Sinclair & Mark, 1992), while negative mood was assumed to promote more effortful and vigilant processing (Schwarz, 1990; Schwarz & Bless, 1991), consistent with affective states functioning as evolutionary signals

indicating the degree of effort and vigilance required in a given situation, or perhaps because in a good mood people avoid cognitive effort (mood maintenance; Clark & Isen, 1982).

An integrative explanation for processing effects was offered by Bless and Fiedler (2006) who argue that different moods have an evolutionary function recruiting qualitatively different processing *styles*. Following Piaget, they suggest that negative moods call for *accommodative, bottom-up* processing, focused on the details of the external world. In contrast, positive moods recruit *assimilative, top-down* processing and greater reliance on existing schematic knowledge and heuristics (Bless, 2000; Bless & Fiedler, 2006; Fiedler, 2001). This affectively induced assimilative / accommodative processing dichotomy received extensive support in recent years.

Several studies suggest (eg. Fiedler et al., 1991) that people experiencing a positive mood are more likely to engage in constructive processing and are more influenced by prior priming manipulations when forming judgments, while negative mood reduced this tendency. Further, negative affect can reduce top-down judgmental mistakes such as the fundamental attribution error (Forgas, 1998a), reduce halo effects and primacy effects in impression formation (Forgas, 2011a,b), improve the quality and efficacy of persuasive arguments (Forgas, 2007), and also improve eyewitness memory (Fiedler et al., 1991; Forgas et al., 2005), as the following review will show. Thus *both* positive and negative moods can produce processing advantages in response to different situations.

Cognitive Benefits of Dysphoria on Memory and Judgments

In this section we will briefly review evidence suggesting that more accommodative processing triggered by negative affect can produce a variety of cognitive benefits, improving memory and reducing various judgmental errors (Forgas & Eich, 2012). For example, remembering causally encountered everyday scenes can be of crucial importance in everyday life, as well as in forensic and legal practice (Loftus, 1979; Neisser, 1982). In one field study we used a small suburban shop (Forgas, Goldenberg & Unkelbach, 2009) to investigate how well happy and sad people will remember various incidental details about objects we placed near the check-out counter. We used a natural mood induction, carrying out the experiment on rainy, unpleasant (negative affect), or sunny, warm days (pleasant affect; Schwarz & Clore, 1988). These mood effects were further reinforced by playing sad, depressing, or cheerful, upbeat background music in the store. We unobtrusively observed whether customers spent enough time in front of the checkout counter, and after they left the shop, a research assistant asked them to first recall, and then recognise the objects they saw (Forgas et al., 2009). As

predicted, negative mood (on rainy days) produced significantly better memory compared to positive mood (Figure 1).

Figure 1 about here

Can negative mood also protect against the common tendency for people to incorporate later, incorrect details into their *eyewitness memories* (Fiedler et al., 1991; Loftus, 1979; Wells & Loftus, 2003)? Although Fiedler, Asbeck and Nickel (1991) suggested over twenty years ago that we need to examine “the mediating role of mood in eyewitness testimony” (p. 376), this was not done before. In a series of experiments, we exposed participants to complex scenes (photos of a traffic accident, observing an altercation in a lecture; Forgas, Vargas & Laham, 2005). Some time later, they were induced into happy or sad moods before receiving questions about the scenes that either did, or did not contain misleading, false information (eg. ‘Did you see the woman in the brown coat force her way into the lecture? – the woman wore a black coat). After a further interval of up to one week, eyewitness memory for the original target events was tested. In all experiments, negative mood reduced, and positive mood increased the tendency to incorporate misleading information into eyewitness memories (Figure 2). A signal detection analysis confirmed that negative mood indeed improved the ability to accurately discriminate between correct and false details. These results suggest the counter intuitive effect that negative mood can improve memory performance, and protect against subsequent eyewitness distortions, consistent with a more assimilative / accommodative processing style it promotes (Bless, 2001; Fiedler & Bless, 2001; Forgas, 1995, 2002).

Figure 2 about here

If negative mood recruits more attentive processing, this could help to eliminate top-down biases such as *halo effects and primacy effects* and improve the accuracy of impression formation judgments in general (Forgas & Laham, 2016). In one study we asked happy or sad participants to form impressions about the writer of a brief philosophical essay – who was shown in an attached photo as either a young unorthodox-looking female or a middle-aged, bespectacled male (Forgas, 2011b). It turned out that those in a negative mood were indeed significantly less influenced by the appearance of the writer (a halo effect) than were judges in a positive mood (Figure 3). Another top-down judgmental bias occurs when judges pay disproportionate attention to early information, and neglect later details (a primacy effect; Asch, 1946; Luchins, 1958). We predicted that primacy effects should also be reduced by negative mood that recruits more attentive, accommodative thinking style (Forgas, 2011a,b). In

this study, participants received a mood induction before forming impressions about a target character, Jim based on two descriptive paragraphs (Luchins, 1958), describing him first as an extrovert, and then as an introvert, or in the reverse order. We found a significant overall primacy effect - but negative mood completely eliminated this common judgmental bias. Conversely, primacy effects were consistently greater in a positive mood. (Figure 4). In a more recent experiment, we found negative mood can also reduce the influence of perceptual salience and cognitive fluency on impression formation (Forgas, 2015). Consistent with prior evidence we found that persons presented with high visibility (large, colour photographs) were judged as more influential than the same person when shown in a small, black-and-white photo. However, this salience effect was eliminated when judges were induced into a negative affective states.

Figures 3 and 4 about here

Another common judgmental error is the tendency to infer dispositions from observed behaviors - the ***fundamental attribution error*** (FAE). By promoting more accommodative processing, negative affect might also reduce the incidence of the FAE by directing more careful attention to external, situational information (Forgas, 1998a). For example, when happy or sad participants were asked to read and make attributions about the writer of an essay that was either assigned, or was freely chosen (eg. Jones & Harris, 1967), negative affect reduced the FAE of inferring internal causation about coerced essays. By analysing subsequent recall data, we also found more direct evidence for the expected mood-induced processing differences (Forgas, 1998a, Exp. 3). Judges in a negative mood had better memory for essay details, consistent with their more accommodative processing style. A mediational analysis confirmed that processing style was a significant mediator of mood effects on judgmental accuracy.

As negative affect seems to improve attention to stimulus details, it may also improve people's ability to ***detect deception*** (eg. Lane & de Paulo, 1999). To explore this possibility, we asked happy or sad participants to detect deception in the videotaped statements of people accused of theft, who were either guilty, or not guilty (Forgas & East, 2008b). Those in a negative mood were indeed significantly better able at correctly distinguish between truthful and deceptive statements from the videotapes (Forgas & East, 2008b).

By triggering more attentive and externally oriented processing, negative affect may well function as a general defence against ***excessive gullibility***. Most information we receive is second-hand; rejecting valid information as false (excessive scepticism) is just as dangerous as

accepting invalid information as true (excessive gullibility). In one experiment happy or sad participants were asked to judge the likely truth of a number of urban legends and rumours such as ‘power lines cause leukaemia’ or ‘the CIA murdered Kennedy’ (Forgas & East, 2008a). Negative mood increased scepticism and reduced gullibility, but only for new and unfamiliar claims that judges had no pre-formed opinions about. In a follow-up experiment the familiarity of ambiguous claims taken from trivia games was explicitly manipulated. Once again, negative mood increased scepticism about unfamiliar items, consistent with a more externally focused and accommodative thinking style. In a similar way, when we asked happy or sad participants to judge the genuineness of positive, neutral and negative facial expressions, those in a negative mood were significantly less likely to accept facial expressions as genuine than were people in the neutral or happy condition. Negative mood apparently reduced, and positive mood increased people’s tendency to accept facial displays as genuine, consistent with the more attentive and accommodative processing style associated with negative moods.

The previous studies suggest that the perceived **truth or falsity** of ambiguous information may be influenced by various heuristics, such as the ‘truth effect’, when more cognitively fluent information is more likely to be judged as true than disfluent information. Thus, ease of processing, or *fluency*, is one of the implicit cues people seem to use in truth judgments. To evaluate this possibility, in one study we asked happy or sad participants to judge the truth of 30 ambiguous statements presented with high or low visual fluency (against a high or low contrast background). Judges in a neutral and positive mood subjects rated fluent (high contrast) claims as more true - however, negative affect eliminated this effect. Thus, affect can moderate people’s reliance on fluency cues in truth judgments, an important effect, as in real-life situations truth judgments (such as believing or disbelieving rumours, false news on the internet, or even one’s partner) often occur in affect-rich contexts.

Figure 5 about here

Behavioral and Motivational Benefits of Mild Dysphoria

As we have seen, mild dysphoria seems to produce a range of subtle cognitive and judgmental benefits, consistent with a more attentive and externally focussed, information processing style. Can these effects extend to actual, behavioural consequences in interpersonal situations? We now turn to this issue.

For example, greater attention to external information in negative mood may also improve interpersonal effectiveness, such as ***social influence strategies***. Although there has been long-standing interest in how respond to persuasive messages (eg. Bless et al., 1996; Petty, De Steno & Rucker, 1991), the effects of moods on the quality and effectiveness of *producing* persuasive messages attracted little attention (but see Bohner & Schwarz, 1993). In one series of studies, we asked participants who first received a mood induction to write persuasive message on current topics such as increasing student fees (Forgas, 2007). The arguments were rated by trained raters for overall quality, persuasiveness, concreteness and valence (positive–negative). Those in a negative mood produced higher quality and more persuasive arguments, and a mediational analysis confirmed that it was especially mood-induced variations in argument *concreteness* that influenced argument quality, with those in a negative mood producing more concrete arguments (see Figure 6; Bless, 2001; Bless & Fiedler, 2006; Fiedler, 2001; Forgas, 2002).

Further, we found that the arguments produced by sad participants were actually more effective in changing attitudes when presented to a naive audience of undergraduate students whose attitudes on the target issues were previously assessed. Similar effects were also observed in a more realistic situation when happy and sad people were asked to persuade a “partner” in an email exchange (Forgas, 2007; see also Amichai-Hamburger, this volume). In other words, negative affect improved the quality and effectiveness of persuasive arguments by recruiting a more accommodative thinking style leading to more concrete and effective arguments. It appears then that mild negative affect (Forgas, 1998a,b; Forgas et al., 2005) can deliver marked benefits for the effectiveness of social influence strategies.

Figure 6 about here

We obtained further recent evidence indicating the adaptive influence of negative affect on ***language processing***. In three experiments (Koch, Forgas & Matovic, 2013) we predicted and found that participants in a negative mood communicated more effectively and complied significantly better with Grice’s normative maxims in conversational situations than did participants in a positive mood when using natural language to describe previously observed social events (Figure 7). Negative mood actually improved the quality of language production, and this effect was not merely due to improvements in the encoding (Exp. 2) and retrieval (Exp. 3) of the relevant information.

Figure 7 about here

These beneficial negative mood effects may apply not only to language *production*, but may also improve people's ability to *monitor and understand* language. In two experiments (Matovic, Koch & Forgas, 2014) we found that mild negative affect improved people's ability to correctly identify 'bad' sentences that are ambiguous and lack clear meaning (ambiguous anaphora; Figure 8). An analysis of response latencies (Studies 1 & 2) further confirmed that negative mood produced longer and more attentive processing, that mediated mood effects on language comprehension. These results are conceptually consistent with negative affect selectively promoting a more concrete and externally focused processing style.

Figure 8 here

In ambiguous and potentially uncertain interpersonal situations negative affect could provide a further benefit, by priming more cautious, careful and pessimistic interpretations, resulting in more polite, hesitant and considerate interpersonal strategies (Bower & Forgas, 2001; Forgas, 1995; 2002). One such situation is **requesting**, a complex communicative task that is characterised by uncertainty. Requests should be formulated with just the right degree of assertiveness vs. politeness so as to maximize compliance without risking rejection. While positive mood may prime a more optimistic and confident strategy and lead to more assertive and less polite requests, sad mood should promote more polite and considerate requests (Forgas, 1999a). We found support for this prediction; negative mood resulted in preference for more polite and cautious requests in both easy and difficult social situations (Forgas, 1999a, Exps. 1,2). We found similar mood effects on requesting in a real-life interaction (Forgas, 1999b, Exp. 2), when happy and sad participants were asked to make a request for a file in a neighboring office. Their words were surreptitiously recorded and analysed showing that negative mood resulted in significantly more polite, elaborate and hedging request forms, whereas those in a positive mood used more direct and less polite strategies (Figure 9).

Figure 9 about here

Why do these effects occur? In this instance, affect can selectively prime access to more affect-congruent interpretations of complex situations that will eventually influence behaviors. Of course, negative affect will not always result in more effective behaviors. We know, for example, that it is those in a positive mood who are often more confident and effective negotiators (Forgas, 1998a), respond more positively to requests directed at them (Forgas, 1998b), are better at managing interpersonal self-disclosure (Forgas, 2011c), and may be more

effective in some organizational situations (Forgas & George, 2001; see also Frederickson, this volume). The point is that in some situations where more caution, tact and consideration is required, it may be negative rather than positive affect that promotes more effective interpersonal behaviors.

Another interpersonal domain we studied where mood may make a difference to social behavior is ***selfishness vs. fairness*** to others. These experiments used strategic interactions such as the dictator game and the ultimatum game to explore mood effects. Economic games offer a reliable and valid method to study interpersonal strategies such as fairness, selfishness, trust and cooperation. In the *dictator game* an allocator has the power to allocate a scarce resource (eg. money, etc.) between himself and another person in any way they see fit. In the *ultimatum game*, allocators face a responder who has a veto power to accept or reject the offer. If rejected, neither side gets anything. Affective state may influence such decisions in at least two ways. As those in a negative mood tend to access more negative information, they might construct more careful, cautious, pessimistic and socially constrained responses. Secondly, affect can also influence *processing tendencies*, as negative affect may recruit more *accommodative*, externally focused processing, resulting in greater attention to external norms of fairness as against internal desires for selfishness. In several experiments we used the dictator game (Tan & Forgas, 2010) and asked happy or sad allocators to divide scarce resources (raffle tickets) between themselves and another person. Happy allocators were more selfish and kept more raffle tickets to themselves than did sad players. Similar patterns were observed in a series of sequential allocations to different partners, as those in a sad mood were again fairer and less selfish (Figure 10).

Figure 10 about here

These surprising mood effects also endured in the more complex decisional environment faced by players in the *ultimatum game*, where the partner can accept or reject the offers (Forgas & Tan, 2012). As hypothesized, those in a negative mood allocated significantly more resources to others than did happy individuals, confirming the predicted mood effects on selfishness/fairness. The latency of their decisions was also recorded, confirming that these mood effects could be directly linked to differences in processing style, as sad individuals took longer to make allocation decisions consistent with a more accommodative and attentive processing. We also found that even *responders* were more concerned with fairness when in a negative mood, and they were more likely to *reject* unfair offers even if that meant not

receiving anything (Forgas & Tan, 2012). Overall, 57% of those in negative mood rejected unfair offers compared to only 45% in the positive condition. These results challenge the common assumption in much of applied, organisational, clinical and health psychology that positive affect has universally desirable social and interpersonal consequences. Rather, our findings suggest that negative affect often produces adaptive and more socially sensitive outcomes.

Affect can also have a profound influence on **motivation**. In an influential paper Clark and Isen (1982) suggested that positive affect motivates strategies designed to maintain, and negative affect triggers strategies designed to improve the affective states. This kind of *mood repair vs mood maintenance* hypothesis is also consistent with affect theories based on evolutionary ideas (Frijda, 1986; Schwarz, 1990). Thus, paradoxically, negative mood, although unpleasant, may sometimes increase engagement and motivation. In contrast, positive affect may not only “feel good”, but it may also produce disengagement, reducing motivation and attention to the outside world (Forgas, 2007).

Several of our experiments now provide support for such dichotomous motivational effects. In particular, positive mood sometimes reduce, and negative mood increase perseverance and ambition. If a person is already in a positive affective state, this may result in the *discounting* of the expected hedonistic value of possible future success, reducing perseverance and motivation (*hedonistic discounting*). In contrast, present negative affect may result in a higher evaluation of the expected hedonistic benefit of success on an achievement task, improving present effort and motivation.

In one experiment (Goldenberg & Forgas, 2016) we predicted that negative affect produced beneficial motivational consequences and increased perseverance on an effortful cognitive problem solving task. As expected, participants in the positive mood condition spent significantly less time working on the task compared to those in a negative mood – they attempted to solve fewer items, and scored fewer correct answers. A mediational analysis confirmed that it was mood-induced differences in evaluating the value of future outcomes – a hedonistic discounting effect - that mediated mood effects on perseverance.

Another motivated strategy that may interfere with optimal performance is **self-handicapping** (Jones & Berglas, 1978), when people create artificial handicaps when success is uncertain to protect against damaging attributions due to possible failure. When we investigated mood effects on people’s tendency to *self-handicap* (Alter & Forgas, 2007), we found that positive mood increased, and negative mood decreased defensive self-handicapping.

Self-handicapping was assessed in terms of participants' preference for a performance inhibiting, or performance enhancing tea when facing an uncertain outcome. The possible beneficial consequences of negative affect on achievement are only now beginning to be explored. Such effects that may be particularly important in everyday situations and especially in organisational settings (Forgas & George, 2001). It now appears that in some circumstances, negative affect may deliver greater perseverance and a reduction in dysfunctional self-handicapping behaviors (Alter & Forgas, 2007; Goldenberg & Forgas, 2016).

Summary and Conclusion

Overall, the series of experiments reviewed here provide a compelling case showing that in many everyday situations, mild negative affective states can provide distinct adaptive advantages. In particular, the functional benefits of mild dysphoria – sadness – have not been intensively investigated before. These results are broadly consistent with recent evolutionary theories that suggest that the human affective repertoire has been largely shaped by processes of natural selection, and all mood states. Consequently, all of our affective states – including the unpleasant ones – can potentially function as efficient 'mind modules' that can be shown to produce benefits in some circumstances (Tooby & Cosmides, 1992).

In terms of answering the central question of this book: How to live well?, the practical message of these studies is that we ought to understand and accept temporary states of dysphoria as a normal part of our affective repertoire. These set of findings stand in stark contrast with the overwhelming and unilateral emphasis on the benefits of positive affect in the recent literature, as well as in much of our popular culture (Forgas & George, 2001). We should accept that positive affect is *not* universally desirable and should not always be preferred to dysphoria. As we have found here, people in a negative mood are less prone to judgemental errors (Forgas, 1998, 2015), are more resistant to eye-witness distortions (Forgas et al., 2005), are more motivated (Goldenberg & Forgas, 2016), are fairer and more sensitive to social norms (Forgas, 1999), and are better at producing and decoding linguistic messages (Forgas, 2007; Koch et al., 2013; Matovic et al., 2014). Given the consistency of the results across a number of different experiments, tasks and mood inductions, these effects appear robust and reliable.

However, it is obviously not claimed here that negative affect is *always* beneficial, or that positive affect does not have important adaptive consequences as well. Negative affective states that are intense, enduring and debilitating such as depression clearly have very negative

consequences and require clinical intervention. What we were mostly concerned with here are the cognitive, motivational and interpersonal consequences of mild, temporary mood states, of the kind that we all regularly experience in everyday life. These experiments are broadly consistent with the idea that over evolutionary time, affective states became adaptive, functional triggers that automatically promote motivational and information processing patterns that are appropriate and helpful in a given situation.

Interpersonal behaviour is necessarily a complex and demanding task that requires a high degree of elaborate processing (Forgas, 1995; 2002). The empirical studies presented here suggest that in many demanding situations, negative affect such as sadness may increase, and positive affect decrease the quality and efficacy of cognitive processes and interpersonal behaviors. When considering what kind of advice social psychologists might give to the general public about how to live well, we should pay greater attention to potential benefits of negative affective states. Accepting the entire range of affective reactions, including the negative ones, may be more conducive to well-being than focusing on the pursuit of positive affective states alone.

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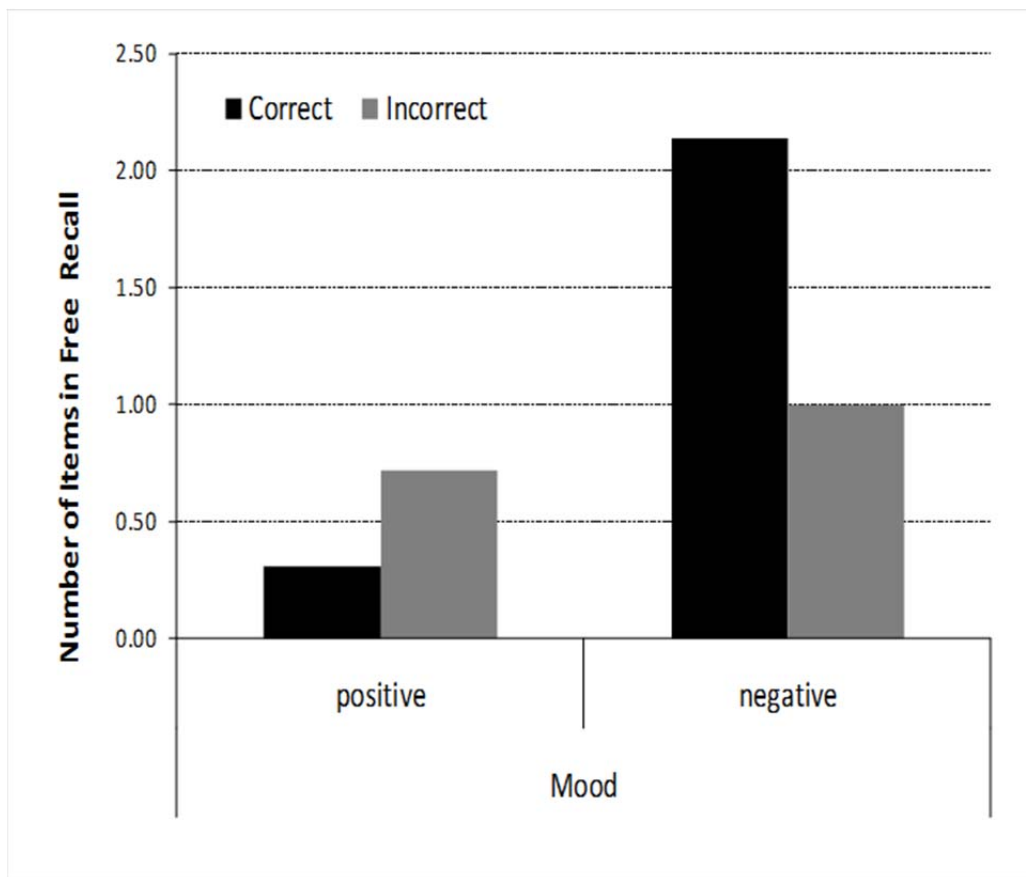


Figure 1. The effects of good or bad mood, induced by the weather, on correct and incorrect recall of items casually seen in a shop. (After Forgas et. al, 2010).

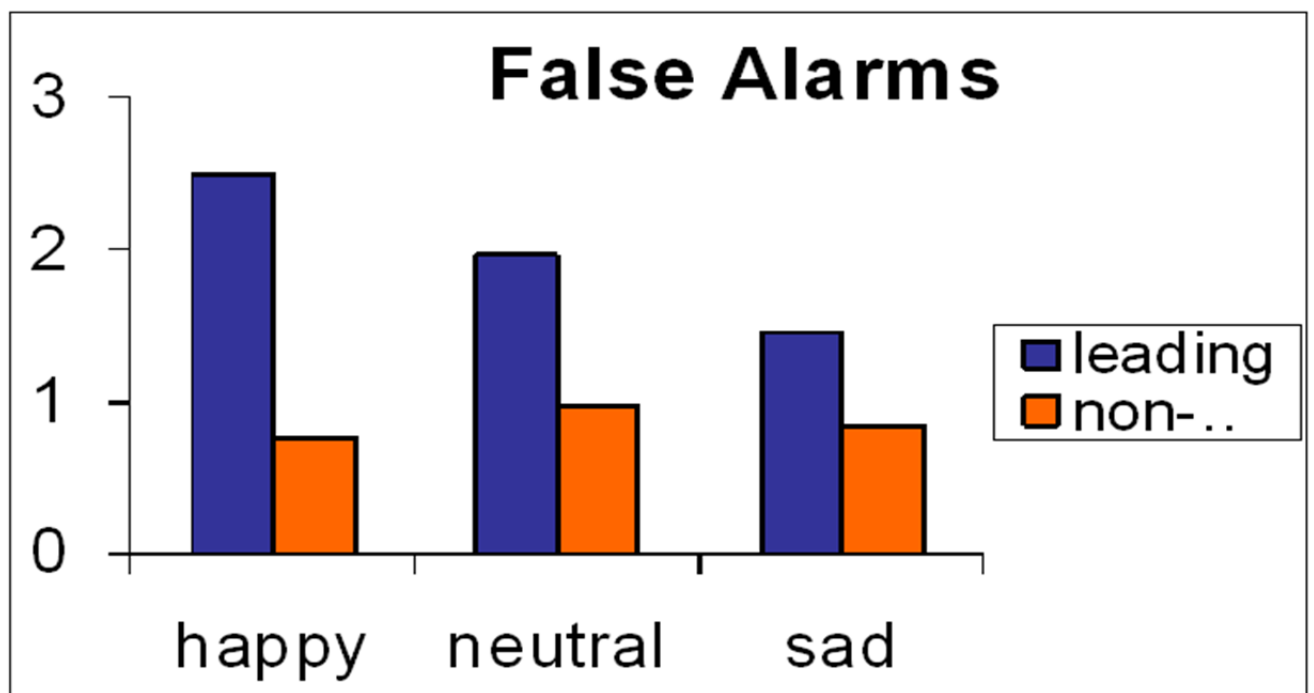


Figure 2. Mood effects on the tendency to incorporate misleading information into eyewitness memory): negative mood reduced, and positive mood increased eyewitness distortions due to misleading information (false alarms; after Forgas, Vargas & Laham, 2005, Exp. 2).

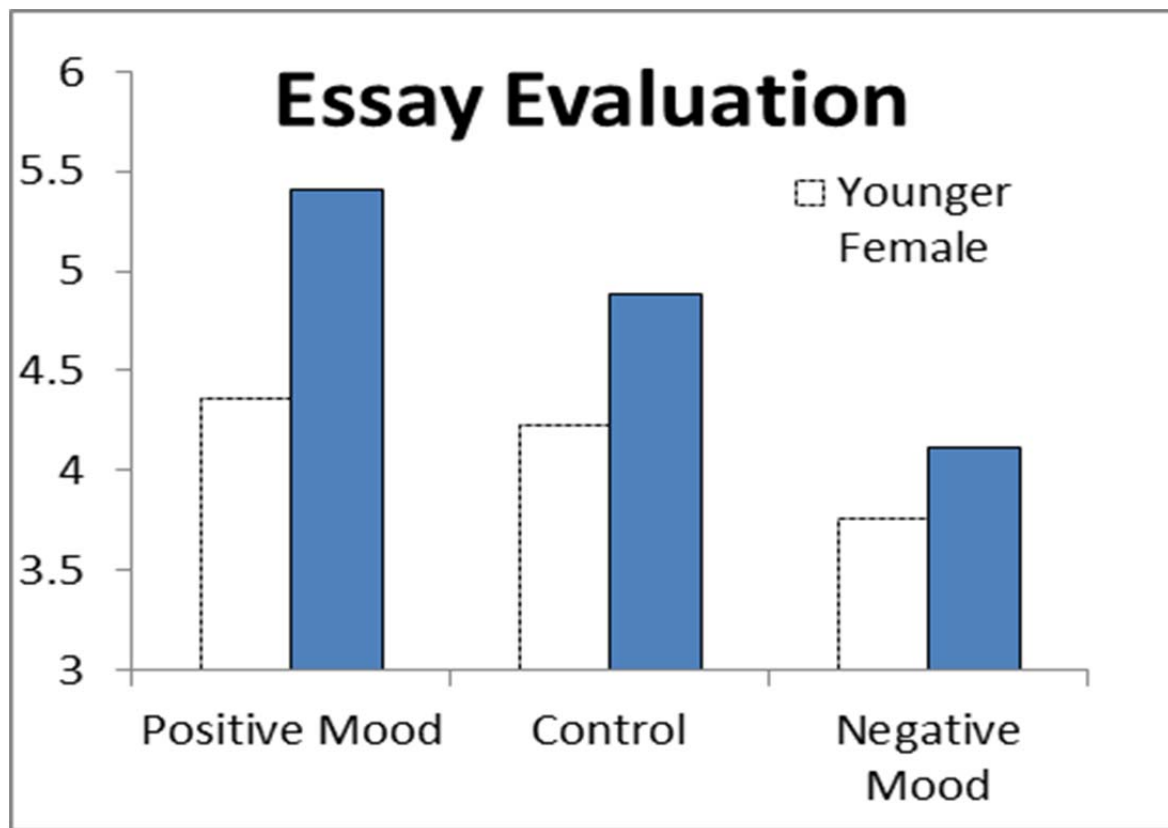


Figure 3. Mood moderates the incidence of halo effects on the evaluation of an essay: positive mood increased, and negative mood eliminated the halo effect associated with the appearance of the writer (after Forgas, 2011b).

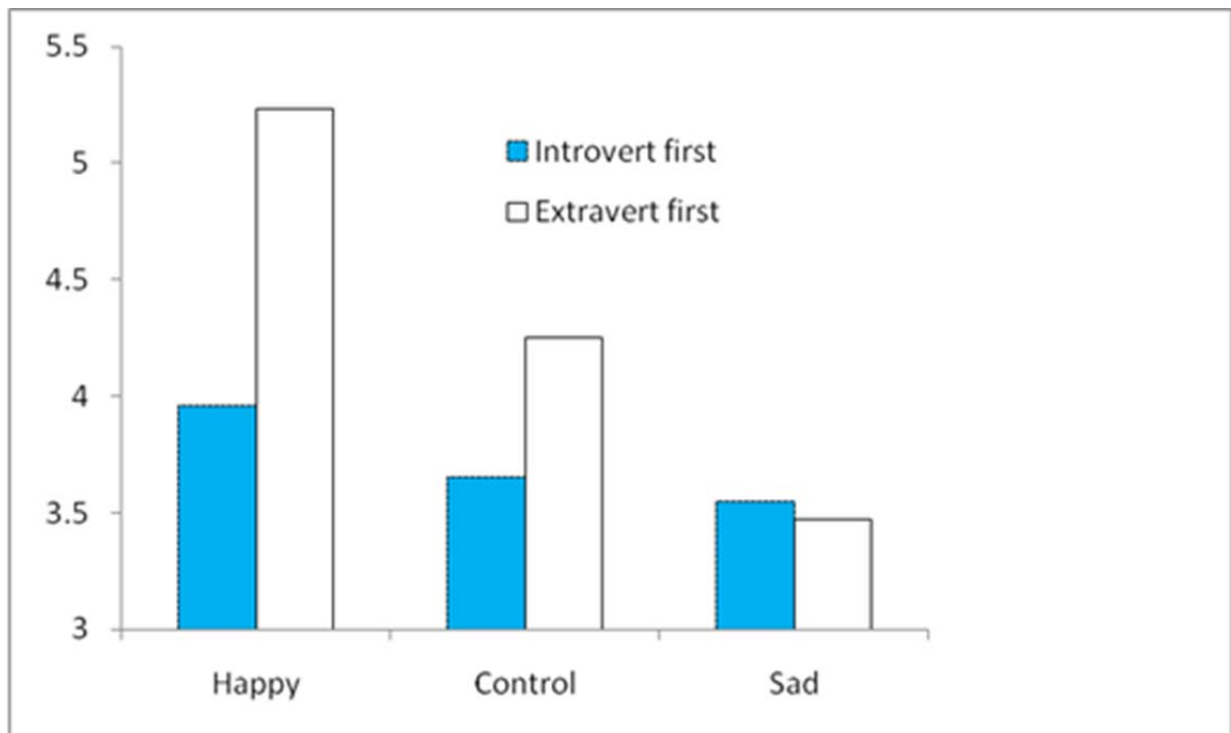


Figure 4. The effects of mood and primacy on the evaluation of a target person: positive mood increases, and negative mood reduces the primacy effect on evaluative judgments (vertical axis; after Forgas, 2011).

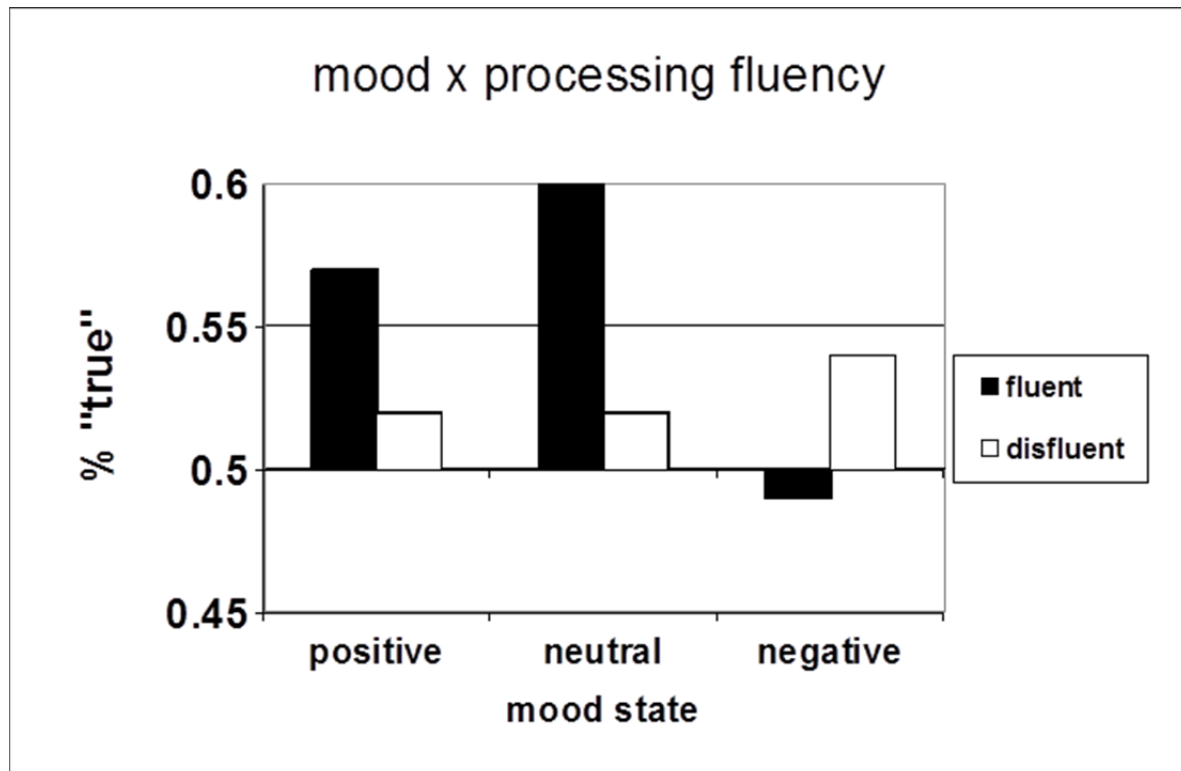


Figure 5. The interactive effects of mood and perceptual fluency on truth judgments: negative negative mood significantly reduced the tendency for people to rely on visual fluency as a truth cue (after Koch & Forgas, 2012).

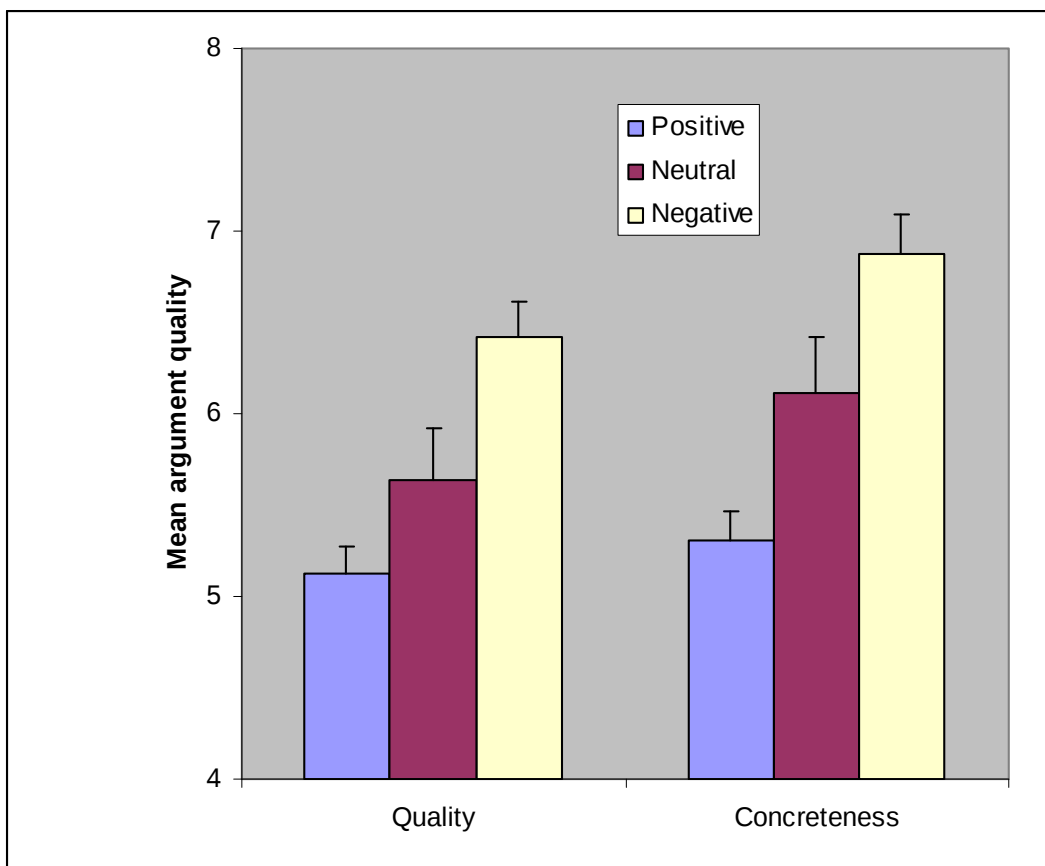


Figure 6. Mood effects on the quality and concreteness of the persuasive messages produced: negative affect increases the degree of concreteness of the arguments produced, and arguments produced in negative mood were also rated as more persuasive (After Forgas, 2007, Experiment 2).

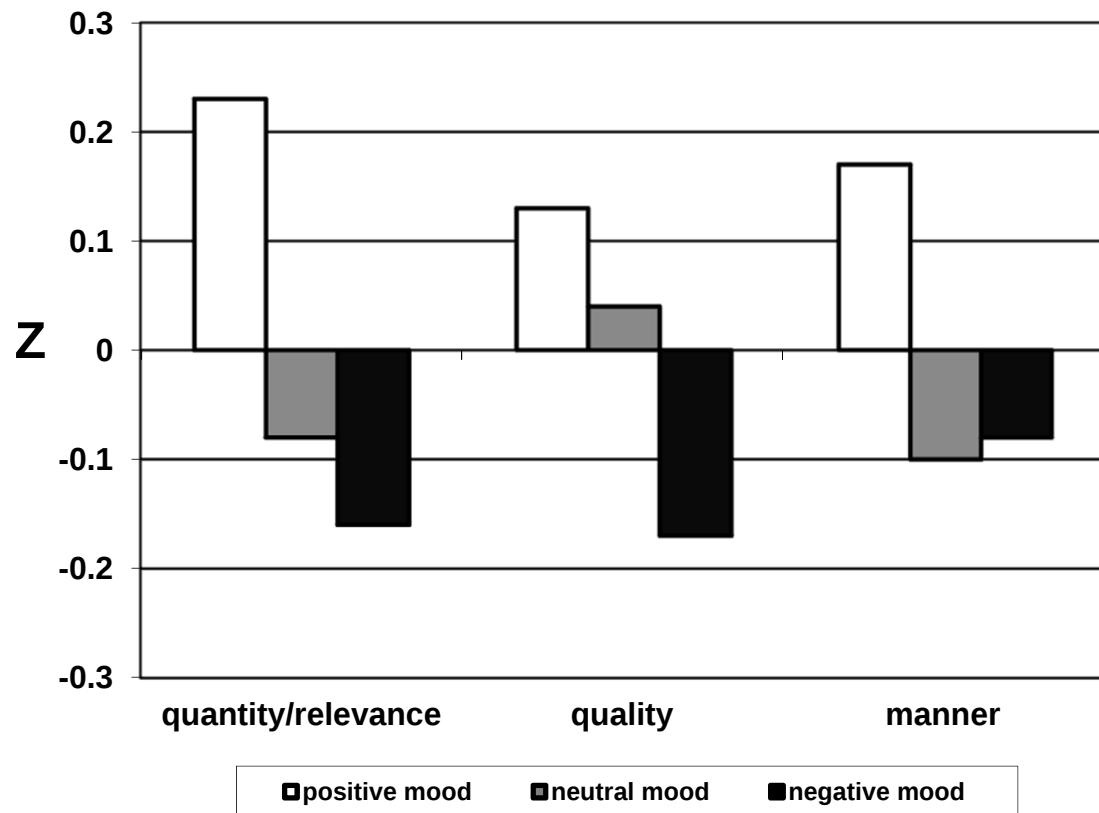


Figure 7. Mood effects on adherence to Grice's (1975) conversational maxims (Z-scores): overall, negative mood produces fewer overall violations of the cooperative principle in spoken language compared with positive mood (after Koch, Forgas & Matovic, 2013, Exp. 1).

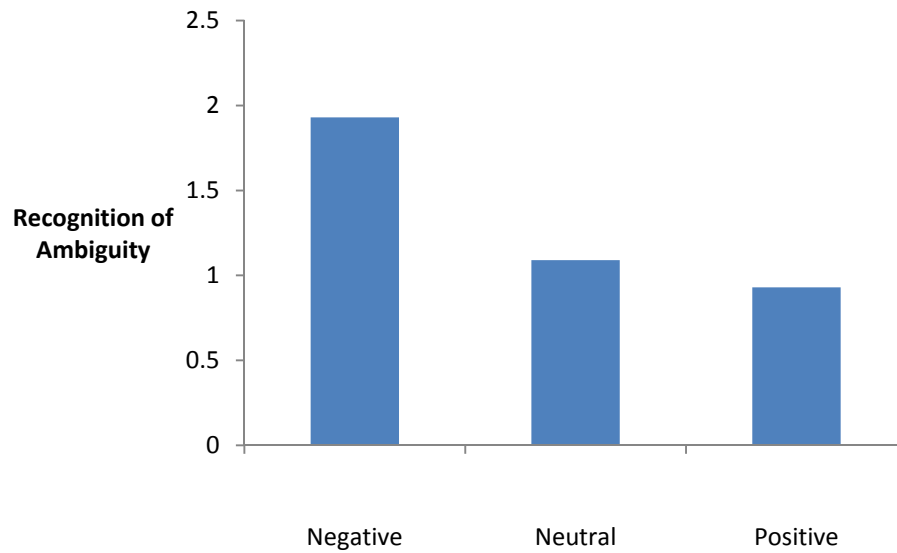


Figure 8. Mood effects on ability to detect ambiguous communication: negative mood promoted the more accurate recognition of ambiguity in communicative sentences compared to positive mood (After Matovic, Koch & Forgas, 2014).

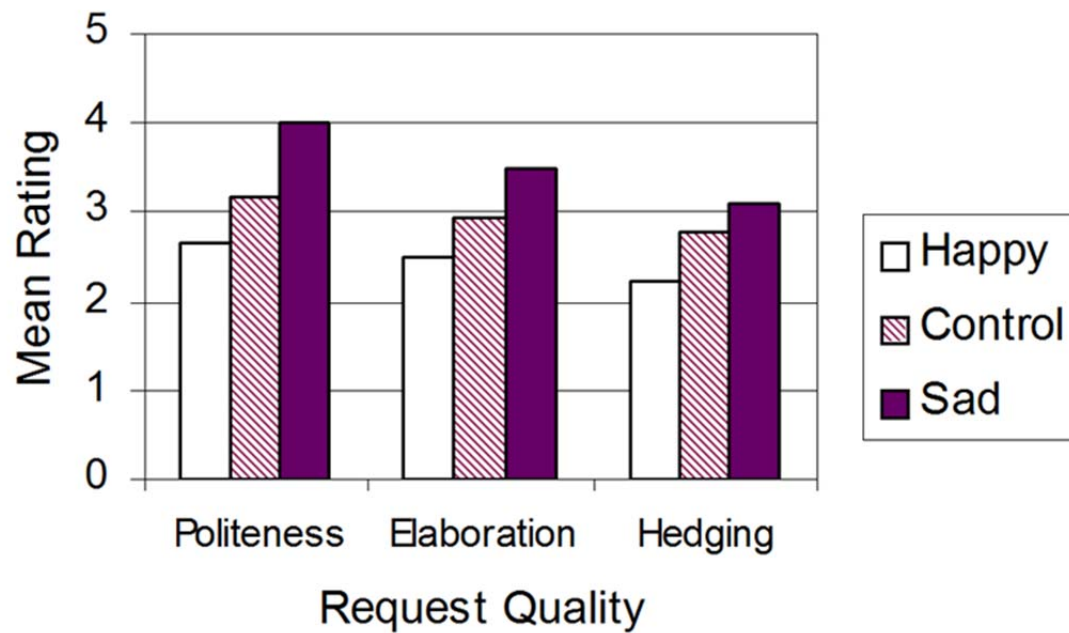


Figure 9. Mood effects on naturally produced requests: Positive mood increases, and negative mood decreases the degree of politeness, elaboration and hedging in strategic communications (After Forgas, 1999b).

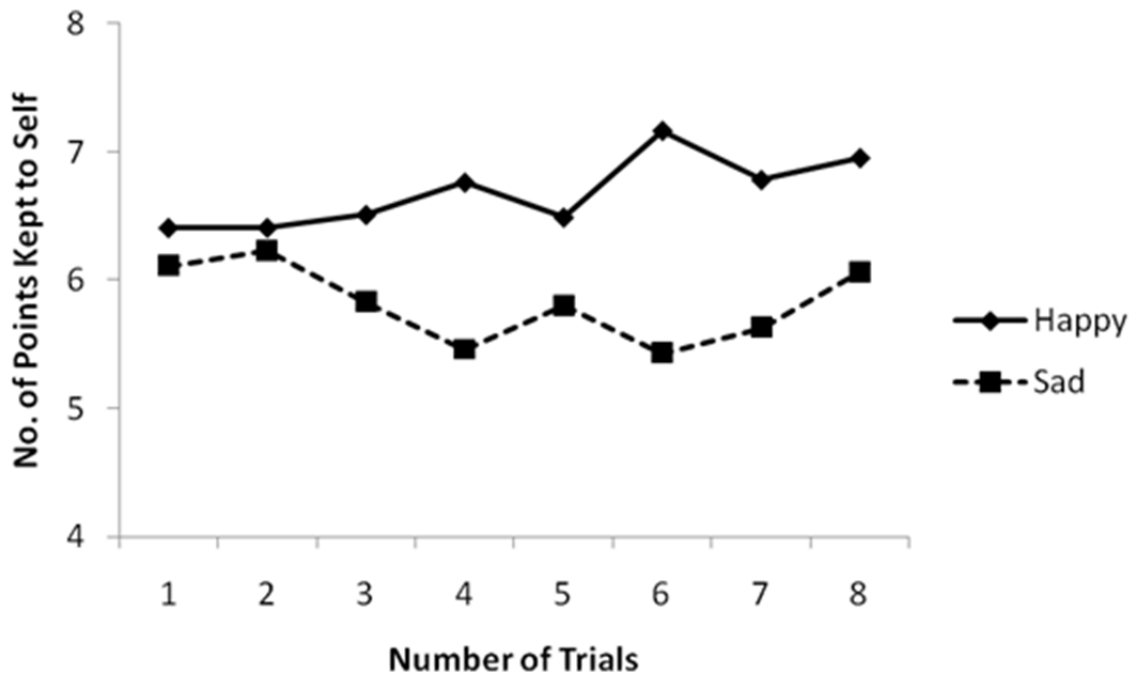


Figure 10. The effects of mood on selfishness vs. fairness: happy persons kept more rewards to themselves, and this effect is more pronounced in later trials.