MANAGING THE HEART OF FINANCE: DOMAIN SPECIFIC EMOTION REGULATION IN THE WORK OF FINANCIAL TRADERS.

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ABSTRACT

In the last decade considerable progress has been made in understanding the role of emotion regulation strategies. However, the primary focus has been on generic strategies. We argue that emotion regulation strategies in the workplace will often be highly domain specific and embedded in domain-specific expertise. In this paper we explore the role of domain specific emotion regulation strategies within the work of financial traders. We report on a qualitative study of the emotion regulation practices of 17 traders and trader managers in two investment banks. We evidence that traders and their managers are significantly concerned with emotions and their regulation and find evidence for both generic and domain specific approaches to emotion regulation.

Management of emotions is important for financial organizations where high stakes are set within an emotionally charged environment (Fenton-O'Creevy, Soane, Nicholson, & Willman, , 2010). Previous work on emotions in the work place (Hochschild, 1983; Brotheridge & Grandey, 2002) has tended to focus primarily on customer service organizations. Such work has begun to explore the particularities of emotion regulation in relation to customer service encounters; for example reframing intentional cognitive strategies and expressive suppression as deep and surface acting (Brotheridge & Grandey, 2002). However emotion regulation within fast-paced decision environments such as investment banks has remained relatively unexplored.

The existing literature on emotion regulation (e.g. Gross, 2002) provides important insights with regard to general strategies for emotion regulation, for example the contrast between intentional cognitive strategies and expressive suppression. However, such strategies are quite generic.

Work on generic strategies is important. However, as expertise research shows us, humans are a highly adaptive species and we are able to respond to the unique challenges of different environments by developing domain specific expertise (Ericsson, 2006). Thus we expect emotion regulation to have important domain specific as well as generic facets. Strategies available for managing emotions will vary depending on the context of the work or the organization. This paper explores domain specific emotion regulation strategies within the financial trading environment.

For the purpose of this paper we adopt Gross's (2002) position in regarding emotions as an unfolding process which spans perception through to emotion expression.

In the first stage, the paper outlines the impact which, in the traders' own understanding, emotions tend to have on their decision making. In the second stage, emotion management strategies adopted by the traders are explored and specific attention is given to the ways in which these strategies tend to become more sophisticated and evolved as more experience is gained by the trader. In our conclusions we also report on further data we have gathered (specifically video observations and heart rate data on a subset of the sample) which will be available to supplement our findings by the time of the conference.

The work reported here is based on exploratory work with traders and their managers, carried out to investigate the impact of emotions on traders work and the emotion regulation strategies they adopt to manage the impact of emotions on their financial decision-making. Interviews were carried out with 17 traders and senior managers from two leading investment banks. The traders interviewed for the research ranged in expertise from novices to highly expert.

THEORETICAL ORIENTATION

Emotions and Decision Making

Emotions can directly bias the cognitive processes engaged in decision-making; for example fear and anger have significant (and opposite) effects on risk perceptions (Lerner & Keltner, 2001; Lerner, Small, & Loewenstein, 2004). Emotions can also bias the value attached to outcomes; for example intense negative emotions enhance valuation of short-term outcomes regardless of negative long term consequences (Gray, 1999). Further, emotions can bias information retrieval; for example there is evidence that it is most easy to recall experiences which are congruent with current emotional state (Meyer, Gayle, Meehan & Haarman, 1990). However, other research suggests that not only do we rely on emotional cues in rapid, automatic decision-making, but also that this confers a tangible advantage to everyday decision making. For example, patients who have suffered damage to the areas of the brain responsible for expressing and experiencing emotion suffer significantly impaired decision-making in their daily lives while apparently having unimpaired intellectual capacities and performing normally on problem-solving tasks in the laboratory. While these patients have a normal ability to reason, they are unable to use learned emotional cues to weight options and pay selective attention (Brickner, 1932; Bechara & Damasio, 2005). Thus, there is evidence both for emotions as detrimental to and as enhancing decision-making performance.

Emotions in the Work Place:

Previous research has explored the role of emotions in the work place. Hochschild (1983) introduced the concept of emotional labor and discussed how stressful it for the employees to put their feelings at work to make a profit for the company. Emotional labor is the silent work of evoking and suppressing feeling- in ourselves and in others. Brotheridge and Grandey (2002) employ an emotional labor framework as a means of examining the emotional demands of work and individual styles of responding to these demands , which have been argued to contribute to employee stress (Hochschild, 1983). Even though, Brotheridge and Grandey incorporated three other occupational categories (managers, clerical workers and physical laborers), the "*main focus for the study was to explore the emotional nature of people work jobs*" (p.20), which included service, sales, caring profession etc. In addition to job-focused emotional labor, where the focus was above occupations, Brotheridge and Grandey (2002) also included employee-focused emotional labor in their research, which reflected the role of how well a particular employee could manage his/her emotions. However, their focus of emotion management mechanisms pertained to customer service jobs, where they split the employee-focused emotional labor into surface acting (modifying and controlling emotional expressions with a customer) and deep acting (controlling internal thoughts and feelings to meet mandated display rules.

Emotions in Financial Decision Making

As discussed above, the emotional labor literature has tended to focus on customer service (Bortheridge & Grandey, 2002; Hochschild, 1983). However, emotion regulation is also important in work which involves fast-paced decision-making. Not only does rapid decision-making require significant reliance on the (emotionally mediated) system 1 cognitive pathway but there is significant evidence of systemic, emotion-mediated biased in human decision-making, not least in the area of financial decision making.

There is, for example, evidence from laboratory studies of financial decision-making under risk that low levels of emotional experience lead to higher levels of performance through greater risk neutrality (that is, a more constant association between objective gain and subjective value (Schunk & Betsch, 2006)). Lo, Repin and Steenbarger (2005) found some clear associations between day-traders' emotions (as measured by an emotional-state survey), their decision making, and performance (N=80). Investors who experienced more intense positive and negative emotional reactions to gain and loss were poorer performers than those with more attenuated emotional responses. The authors suggested that rapid, emotional decision making is unsuited to the complex, information rich environment of trading. Kamstra, Kramer, and Levi (2003) present international evidence that seasonal depression, which correlates with the length of the day, has a negative effect on stock returns.

Research on financial decision making also points to the positive role emotions may play. For example, Seo and Barrett (2007) carried out a study of investment club members (N=101), using an internet-based investment simulation accompanied by emotional-state surveys. They found that individuals who experienced more intense emotions achieved higher decision-making performance and that higher performance was associated with more effective emotion regulation.

In a high pressure trading environment where critical decisions worth a considerable amount of money need to be taken moment by moment, the effective management of emotions becomes even more critical. The role of emotion and its impact on trader performance has been extensively analysed and reported by Fenton-O'Creevy et al. (2010) in a large-scale qualitative study that involved 118 traders from four leading London-based investment banks. They found that successful expert traders are more likely to engage in self-monitoring and in anteceden-focused emotion regulation, and that this carries important benefits in terms of trading performance. However, this work mostly examined generic approaches to emotion regulation and says little about domain-specific approaches.

Emotion Regulation

Emotion Regulation can be defined as "*all the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features*" (Thompson, 1994). Emotion regulation can also be defined as the set of processes whereby people seek to redirect the spontaneous flow of their emotions (Koole, 2009). Emotion regulation refers to the processes by which we influence which emotions we have, when we have them, and how we experience and express them (Gross, 1998b). People can potentially control virtually every aspect of emotional processing, including how emotion directs attention (Rothermund., Voss, & Wentura, 2008), the cognitive appraisals that shape emotional experience (Gross, 1998a), and the physiological consequences of emotion (Porges, 2007). These and other processes whereby people manage their own emotions are commonly referred to as emotion regulation (Koole, 2009).

Emotion Regulation Strategies

People choose situations and modify situations; situations require attention and appraisal; and lead to an emotional response. Attempts to manage emotions, then, may focus at any of these stages. Situations may be selected or avoided, and they can be modified. Attention can be focused on particularly emotionally salient elements of a situation; distractions can be sought to avoid emotion; situations may be appraised in a particular fashion or reframed to modify an emotional response; and responses may be modulated or suppressed.

Particular attention has been paid in recent research to the difference in outcomes between *antecedent* focused-emotion regulation strategies, which seek to change emotions before emotion responses have become fully activated and *response-focused* regulation strategies, which modify behavior and emotion expression once the emotion response is underway.

At the broadest level, Gross (2002) distinguished between antecedent-focused and response-focused emotion regulation strategies. Antecedent-focused strategies refer to things done before the emotion response tendencies have become fully activated and have changed our behavior and peripheral physiological responding. Response-focused strategies refer to things done once an emotion is already underway, after the response tendencies have already been generated.

More specifically, Gross (2001; Gross & Thompson, 2007), distinguishes a series of different stages in emotion episodes and five associated emotion regulation strategies. These are summarized in figure 1 below.

FIGURE 1 ABOUT HERE

While Gross's (2002) framework represents a major contribution to the field, it has little to say about the detail of domain specific emotion regulation strategies which are developed and deployed in response to the particular emotional challenges of different performance domains. In line with findings from expertise research (Ericsson, 2006) we would expect that emotion regulation is an important element of professional expertise in different work domains and that like other forms of expertise it has important element which are highly domain specific and which do not transfer well between domains.

Emotional Regulation in Financial Decision Making

There is also some evidence on emotion regulation and financial decision-making. In their study of investors, Seo and Barret (2007) found that investors who were better able to identify and distinguish among their current feelings achieved superior decision-making performance. This, they argued, was mediated by improved regulation of the influence of feelings on their decision-making. However, they made no direct measurement of emotion regulation and did not consider the relative contribution of antecedent and response focused emotion regulation.

Rather than depending on appropriate emotion display in the context of customer interaction or negotiating with counterparties, trader performance depends on selecting optimal trading strategies in the face of complex cognitive demands and the need to process significant amounts of information with uncertain relevance (Cetina & Bruegger, 2002). Fenton O'Creevy et al (2010) explicitly examine the different approaches to emotion regulation between novice traders and both high and low performing experienced traders. They investigated the relationship between traders' emotion regulation strategies and their performance and found effective emotion regulation to be a critical success factor in trading.

THE STUDY

Participants:

Participants were sampled from two leading investment banks, one in London and another in Copenhagen. Both banks were European owned. The mean age of participants was 34.5 years (s.d. =6.28 years). There was variation in traders' experience, with overall tenure (including time with previous employers) in a range from 3 months to 25 years, and a mean job tenure of 10.6 years (s.d. = 7.8 years). The trader sample comprised 15 men (88%) and 2 women (12%). 9 participants were market makers in the spot foreign exchange market and 8 were in the option foreign exchange market.

Data

Prior to carrying out interviews we made several visits to each bank and met the traders who would be interviewed and spent time observing traders in their daily work. The second author had an existing relationship with the senior manager introducing us to the traders in each bank, who, in both cases, vouched for our trustworthiness and emphasized the confidential nature of the interviews. Participation in interviews was voluntary. Interviews were semi-structured in nature and lasted between 60 and 90 minutes. The interviews ranged over multiple aspects of the traders' roles and work. Traders were asked to describe their day to day activities and pay special attention to the tasks they find challenging. They were asked to differentiate in their view the differences between novice and expert traders and to speak about the mistakes traders commonly make. In particular they were probed about the impact of emotions on their work and performance. They were asked in detail about the ways in which they manage the impact of emotions on their decisions and performance.

Analysis

The interviews were transcribed in full. We used a thematic analysis approach to data analysis. ‘Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail’ (Braun & Clarke, 2006). However, frequently if goes further than this, and interprets various aspects of the research topic (Boyatzis, 1998).

Data were open-coded by the authors using the NVIVO program. Common themes were identified and used as the basis for a first set of coding categories which were subsequently refined and consolidated. Coding categories were thus both emergent from the interviews and drew on constructs identified in the literature relevant to emerging themes. Thus coding was both theoretical and inductive.

FINDINGS

Emotions in Trading

Traders were fairly open in talking about their experience of emotion at work and it was clear that traders and their managers are often preoccupied with the effective regulation of emotions. This section summarises the various ways in which traders conceptualised the impact of emotions on their trading

Forced trading: In the face of missed opportunities failure to execute ‘good ideas’, several traders admitted to a propensity to ‘forced trading’ and others described this as a common problem. Missed or lost opportunities lead significant negative emotion and attempts to recover the real or notional amount of money lost. Forced trading is the act of entering trades which the trader or investor does not have a lot of conviction in an attempt to make up the real or notional loss. Such trading or investing tends to be impulsive and panic driven rather than opportunity driven. This pressure to always have a trade on and second guess the market even if there is no real basis or reason for trading is often experienced by traders, especially when market conditions provide few opportunities.

"I don't think traders should have a position just to have a position; he should have a position because he believes in it. And if he doesn't have a clear opinion or a strategy it's better that he just stays away and focuses on extracting as much profit as he can from the natural flow that he's given. Because it he doesn't' feel sure about his strategy he's going to change it anyway." (COO FX spot, 25 years of experience).

"Boredom trades, and just bored in general, but yes, you do miss things and make mistakes, and you just tend to lose money for no reason, just to keep yourself occupied, sometimes with the boredom trades, you inevitably lose money, there's almost no use for that, at all." (FX spot trader, 4 years of experience).

*Path dependence***:** When money is lost in earlier trades it has an emotional impact which increases risk taking, encouraging traders to undertake trades that are unwise in order to make up the lost amount. It can also have an opposite impact where traders may become overly risk averse in an attempt to not lose any further money and may find their confidence completely eroded.

"Yes, of course because you lack confidence in your… it doesn't necessarily affect the way that you manage the flow but it affects when you need to take proprietary positions because you naturally lose confidence, so rather than thinking, I've had a few good ideas, this is going to go my way; what you do when you've had a good few

weeks, you start to tell yourself, you're just not calling it right these days." (FX spot trader, around 3.5 yrs of experience).

"I'd say when someone's just cost you a lot of money, it definitely sometimes affects what you were thinking. What you were thinking might have been completely right, but it suddenly throws you, your emotions. And I don't care who you are, whether you're at Goldman Sachs, whatever, your emotions definitely do get thrown." (Head of spot FX, 24 years).

Self-doubt **:** When money is lost over a period of time then confidence diminishes and self doubt becomes a major obstacle to overcome. The vicious cycle of having lost money and being wary of losing more money kicks in, as a result of which even more money is lost. It's very challenging both emotionally and mentally to be able to avoid this vicious cycle and its implications for trading.

"The more money I make, the more confident I am, the more money I make, the more successful I am, the better decisions I make; and it's like a positive feedback. And it works in reverse as well; if you're on a bad run, and every trade you make is wrong, and every decision you make is wrong, and it doesn't work out, and you begin to doubt yourself a little bit, and that has negative consequences; you're looking for ghosts everywhere, and try to figure out what you're missing, and you take your eye off the ball, and then you can spiral downwards pretty quickly as well." (FX options trader, 9 years of experience).

"Yes, and I've been wrong for six months this year, so even my wife or my friends have always said, you are probably the person who makes the decision the quickest

in what you are going to do, and this is the first year I think my wife said, you're taking so long to make decisions. You've never been like this before, and it's probably because there's a bit of self doubt coming in, that if it's not working, are you doing the right thing? Are you as good as people say you are, and I've tried my best not to let it affect my work, but I would be probably lying if I said it hasn't at a certain level, but I would like to think that I've been mentally very strong to keep at least doing what I do at a smaller scale, but still trying to put money on what I think is right." (Director FX spot, 15.5 years of experience).

Dishonesty with self: Getting attached to trades or investment and failing to see you have made the wrong decision is a common phenomenon. When this happens, emotional attachment and resistance to admitting one's mistake becomes the basis of staying with a trade or investment. Such a situation tends to become increasingly worse as the longer such a trade or investment is stuck to, the more money is lost and as a result of which the trader or investor is under even more pressure to make up the loss. This in turn leads to even more resistance to experiencing the pain of the loss by exiting the trade or investment.

"…they're often losing money on the trade, and they know they should stop out, but they don't; they think it will be okay. Now, yes, the money may come back and they may end up making a profitable trade, but they've missed countless other opportunities in their markets to make more money than they would have done out of this one stressful trade. So, I think people get too carried away; they fall in love with the trades." (FX options trader, 2.5 years of experience).

"You can get married to so many trades, and basically you need to dislodge yourself and say, no, it's wrong. Yes, it happens a lot of times. I would like to sit in an interview and

say, it doesn't happen and I'm very clinical, but I must say it does happen, yes, more often than I'd like it to happen." (Director FX Spot, 15.5 years).

Lack of self-discipline. A common form of ill-discipline seen among traders is not sticking to a planned exit strategy. Traders report this as especially common where money has previously been made on a position. The feeling is that it is acceptable to take bigger positions and to lose more money on those positions. There is the tendency to become attached to trades and not having the discipline to exit a bad position. Poor discipline is also reflected in not being disciplined with risk-taking. Commonly traders suggest following a heuristic that the amount of risk taken should be linked to the amount of conviction that they have in the trade. This is in part a risk management strategy, but it is also a form of emotion regulation; putting on a trade in too large a size and losing money on it when the trade was one that was not very promising in the first place is an extremely disheartening and painful experience.

"… the amount of risk that you have on a trade should be reflective of your conviction on that trade, and they should always be connected. One of the worst feelings - well, one of the bad feelings in this job - is putting on a trade in too large a size and losing money on it, when you didn't really like that trade very much. If you didn't like it very much, you should have only put on a small amount. So the discipline to know, okay, well I feel this, X confident about it, or I really like the risk and reward about it, I'll put on that amount of risk on to the trade. It's right across the board. It's, okay, well I have an idea that to trade a product that I don't normally trade - the more disciplined traders will do it in either small size, or actually won't do it at all, because often when you trade things you don't

normally trade - outside of your core products - you lose money more often than not." (FX options trader, 10 years of experience).

"Being ill disciplined, and thinking that, yes, you've made money, so you can just afford to run bigger positions, and let positions lose more money before you stop out. And treating money that you've made in the past as like a cushion on which to lean against, whereas, what I think you should do is start from scratch each time, and just assume you have no money. And so it's to be ill disciplined, that really frustrates me." (FX options trader, 2.5 years of experience).

Trading from the gut: As reported by Fenton-O'Creevy et al (2010), intuition and 'gut feel' were seen by many traders to be extremely important for trading and investing. It was clear that many traders felt that a critical engagement with intuition is very important. They identified top traders as those that have a *feel* for the market and go by their gut. However this intuition or gut was commonly seeing as having its core in news or information.

"…to some extent and some of the best traders, will be able to do that. He has the gut feel but will be able to sit back and go okay right why is it that I have that gut feel. Point a, b and c, that makes sense to me, so I'm a little bit not dismissive, that's the wrong word. Pure hunch without being able to articulate it, I'm not a big fan of." (Head of FX options, 18 years of experience).

"…if you're trading off a technical chart and the chart is at a point where it can either hold a trend line or break a trend line, you have to use your gut to tell you what's going to happen. There are those instances right across what we do, that we have to make that decision, and that decision, even though you have the numbers, isn't always clear, based on the numbers. You know where you are based on the numbers, you don't know where

you're going to go, and so that where you're going to go comes down to your decision and your gut feel about what's going to happen next." (FX Options Trader, 10 years of experience).

Failing to back one's convictions: Inability to back one's own convictions was identified by many as one of the worst feelings in trading and investing. Losing money when the traders convictions were correct but they got talked out of them or their convictions got swept away by the market noise and they traded out of the position was seen by these traders as much worse than if money was lost on something that the trader had conviction in but stuck to. Losing money or missing opportunities through failing to back one's own convictions was mentioned by multiple traders as having a much stronger and longer lasting negative impact then losing money on convictions that didn't work out the way that was anticipated.

"Losing money when you're right about something, but you still traded out, definitely makes you feel a lot worse than if you are just losing money on something that you have a conviction on, but you still kept the position." (FX options trader, 8 years).

"That is probably the worst feeling I've had in trading all the years, when you know you're right but you didn't have the conviction to back your idea. If it goes wrong, you say, all right, fine, it's wrong, but if you had a conviction and you didn't put it on, it was absolutely the right thing, that's probably when I feel the worst, even more than when I lose money." (Director FX Spot, 15.5 years of experience).

"I think that's probably the hardest part, a lot of traders do create a strategy for themselves but they don't stick to it. Because during the day they become subject to all the noise and all the information they receive, which is huge. Slowly but surely

they're convinced that they're actually wrong." (COO FX spot, 25 years of experience).

Emotional engagement: Traders make a crucial distinction between the need to avoid the adverse impact of intense emotions on trading decisions and the need to care about outcomes. Caring about the job and having a passion to perform, was consistently reported as a common trait among top traders. For traders, effective emotion regulation is not about having no emotions. A continuous and emotional engagement with the market was often described as extremely important.

"Once again the best traders I've ever seen, one thing I think they absolutely have in common, they have different personality types, different techniques, different approaches to the market. But the one thing I would say was in common to them all was intensity, and the intensity means that you sit there and concentrate on the market. They're constantly thinking about the market and trying to figure out what's going on; they don't just sit back. They're always engaged thinking and trying to understand the market. It's okay to be relaxed, mentally calm, but without intensity you can get killed; it's just a brutally competitive business. ...If they don't feel anything when they lose money that's not a good thing; that's not a long-term survival. It's like those people with a medical condition where you don't feel pain; they die early. Pain is a good feedback mechanism." (Head of FX options, 18 years of trading experience).

"There has to be a passion involved in the job, and passion is emotion, and if it's not there, I would probably not hire someone who was that clinical. I would hire someone with a passion for trading, who knows when he's right or wrong, but backs his conviction, and he

adds the x factor. When I'm right, I will go for it. I would think I'm like that, and I would like to hire someone who is obviously like that." (Director FX spot, 15.5 years of experience).

Emotion Regulation Strategies

In this section, we look in particular at the emotion regulation strategies traders adopt in relation to the particular challenges of their work. We start by considering the evidence for traders use of the generic strategies described by Gross (2001; Gross & Thompson, 2007). We then move on to consider the more domain specific strategies.

Active Suppression: Traders with a low amount of experience commonly described suppressing their emotions as a way of dealing with them.

"I think more just suppressing the feeling. I tend to do that more often…., just relax, don't worry, just ignore it, move on." (FX spot trader, 4 years).

"By now I am doing really good at controlling my emotions…. I have a good trade on, I make a lot of money, of course I am happy inside but to the outside I am not showing it at all and same is if I have losses….its just the way I am (not to show it)…inside definitely I feel emotions like happiness and anger… but little of it is actually coming outside" (FX spot trader, 1 year of experience).

This approach matches Gross's description of 'expressive suppression' (1998a) which is a form of response modulation that involves inhibiting on-going emotion-expressive behaviour. Suppression is a response-focused strategy, which comes relatively late in the emotion-generative process, and primarily modifies the behavioural aspect of the emotion response tendencies. While it should be effective in decreasing the behavioural expression of negative emotion, it might have the unintended side effect of also clamping down on the expression of positive emotion. At the same time, suppression does not help in reducing the experience of negative emotion, which is not directly targeted by suppression and may thus continue to linger and accumulate unresolved. Moreover, because suppression comes late in the emotion generative process, it requires the individual to manage emotion response tendencies with considerable effort, as and when they continually arise. These repeated efforts may consume cognitive resources that could otherwise be used for optimal performance in the social contexts in which the emotions arise.

Retreat when losing. Traders with medium amount of experience often acknowledged actively staying out of the market or having limited involvement in it at a time when they feel everything is going against them and their persistent bad performance may impair their future judgment.

> *"One of the other tricks for me is, yes, I typically do reduce my size of trading until I feel that I'm comfortable putting larger risks on again. I retreat a little bit before pushing back forward again so that you don't have too many big losses in a row that can creep into your head and start you doubting about yourself."* (FX forwards trader, 10 years of experience).
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> *"…if I've had a few bad weeks, if I can, there's times where I've got to just try and hit re-set button, try and say, things are a bit out of control, I'm losing money, I don't really understand why; you know what, I'm just going to flatten everything; I've lost the money, I'm not going to lose any more, I'm going to square it up. Then I'm going to sit back, rethink things a bit, go off and maybe read a bit of research, talk to some other people, try and just start with a blank slate, come back and try and look at the market from a fresh perspective. For me, that's worked, because if I'm in a rut,*

somehow you must get out of it, and for me, trying to hedge my risk as much as possible, being flat, not taking a view, not taking risk; for me, that's been the best way to get out it and start afresh.... when you're having a bit of a bad run, yes, I do tend to try and get out of the market and try and hit the re-set button somewhere, somehow" (FX options trader, 9 years of experience).

This approach matches the 'situation selection' generic emotion regulation strategy (Gross & Thompson, 2007). Situation selection "involves taking actions that make it more (or less) likely that one will end up in a situation one expects will give rise to desirable (or undesirable) emotions" (Gross & Thompson, 2007).

Removing self from the situation: Traders with low amount of experience admitted to adopting this mechanism as a way of dealing with stressful situations or times of emotional distress.

"At particular, stressful times, I often try and get off the desk for five minutes, and have what I like to call a cooler, and cool down a little bit. And then, other thing is, just talking about it with colleagues is also a way of getting it out, getting it off your chest. Other than that, I don't think of much else that I can do to remove that. But that does work." (FX spot trader, 4 years).

This approach appears to be along the lines of attention deployment stage of the emotion regulation continuum as proposed by Gross (2001; Gross & Thompson, 2007), where distractions are sought to avoid emotion.

Experience. Traders with both high and low amount of experience recognized experience as an important element in managing emotions. This seemed to have two components. First, experienced traders were able to set losses and setbacks in the context of a long career, ameliorating their impact. Second, increased skill in managing emotions was often acknowledged as an important component of increased expertise.

> *"I think it (managing emotions) comes from experience really, because there's no point, the market is not going to come back when you blow your top. You've just got to move on and take it from there."* (FX spot trader, 16 years of experience).
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> *"The overall emotional frustration or disappointment level is lower, certainly for a bigger loss or missed opportunity in P &L. And that just comes with… it happens to you more and more so you become a bit more immune to these things."* (FX spot trader, 4.5 years).
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> *"The more experienced guys tend to put things in perspective a lot better. They'll lose a bunch of money and can go out and be happy afterwards because they'll think I could see it coming; that was the sort of amount of money I thought I might lose so I did pretty well. I was wrong, but I'm often wrong, but I handled the risk okay and I've done this hundreds or thousands of times before. It doesn't bother me. A more junior guy tends to get a bit more flustered by that, they tend to believe the number because they've had fewer instances of the numbers turning up. That's the key thing, composure."* (Head of FX options, 18 years of experience).

This process of 'putting in perspective' seems similar to the cognitive change strategy described by Gross & Thompson (2007). "*Cognitive change refers to changing how one appraises the situation one is in so as to alter its emotional significance, either by changing how one thinks about the situation or about one's capacity to manage the demands it poses*" (Gross & Thompson, 2007). Gross (2002; Gross & John, 2003) cited cognitive reappraisal as a form of cognitive change, which involves construing a potentially emotion-eliciting situation in a way that changes its emotional impact (Lazarus & Alfert, 1964). Reappraisal is an antecedent-focused strategy that occurs early, and intervenes before the emotion response tendencies have been fully generated. This means that reappraisal can thus efficiently alter the entire subsequent emotion trajectory. In addition, when used to down-regulate negative emotion, reappraisal should successfully reduce the experiential and behavioural components of negative emotion. However, for these more experienced traders this capacity to monitor and regulate their emotions also seemed tied to a capacity to anticipate the emotional impact of market conditions and events and a sense of the need to modulate their level of emotional arousal appropriately for different kinds of challenge.

Emotional awareness. Traders with at least medium experience often described themselves as trying to be consciously aware of their emotional state and regulating their emotions before they have an undesirable impact.

> *"The less volatile I am in terms of emotion, the more successful I've become, both in terms of trading and managerial responsibilities. So it's about having the - the old phrase - having your wits about you. If you're too ecstatic, or you're too upset, it's very difficult to get things done, or you'll always be changing your mind depending on what how you feel that day. You have to make rational business decisions, and in order to do that, you need to be pretty stable about it. So, yes, for me, personally, yes, as my career's progressed I've become less volatile in the emotions, and yes, I think that's correlated to my performance."* (FX forwards trader, 10 years of experience).

> *"You need to make sure that - and I've consciously made an effort with this whole managing emotions, you don't want to get too high. You don't want to get too*

confident. You need to be aware of when you're trading low. You need to be aware of when you're in sync with the market and your trades are going well, but you also want to make sure that you don't get too cocky." (FX forwards trader, 10 years of experience).

Managerial support. Traders with medium and high amount of experience identified managerial support as something which was extremely useful helping traders overcome a losing streak. Managerial support was seen as vital in helping traders overcome and avoid the vicious cycle of self-doubt which can easily kick in when faced with repeated losses.

"I think it very much depends on your managers. I had pretty decent managers who were quite supportive and when I didn't, that's when it started getting stressful. Losing $1 million doesn't mean the same, it depends on how people react and how your boss reacts and how you're made to feel. One guy can be 'that's okay, fair dos, what are you going to do about it' *and be calm and rational about it, and that doesn't stress you. You can lose half as much and feel like you're an idiot, and that's terrible. So it isn't the actual amount of money really; they're such fanciful figures it doesn't have any relation to real life, it's just a number. It's how people react to that number that impacts your emotions in my case. Early on in my career I had some very good bosses and a couple of not so good bosses and I was just much more stressed out by not having good bosses."* (Head of FX options, 18 years of experience).

"I've had a very supportive boss this year. If he probably wouldn't have supported me the way he has, I would probably either looked to change jobs, or moved to another bank, so after all these years, I always used to say, bosses are absolutely a

waste of money and they should do away with bosses, because I never came across a good boss, and I think for the first time, I've come across a boss who does his job, is not insecure, lets you grow, and that has played very favourably with me, and I've really grown and used that freedom to up my skills, and I must say, I have to give him a lot of credit for it, to have the foresight to say, ' You're having a bad year, but we want you here no matter what. We've seen how you trade, and it's definitely something we want to invest in'*, not just say, it's all right, but actually invest in me and say, this is also…and so it's taken the self-doubt out of me and he's given me so much backing, I have to back myself again. So, I really have become a firm believer that a good leader really changes the way people think, and if it's an average or a bad leader, you have a very average desk."* (Director FX spot, 15.5 years of experience).

Managers also reported themselves as paying a lot of attention to the emotional state of their team. In initial discussions about the research one senior manager told us "*Do I think this stuff about emotions is flaky? No - I spend at least half my working day dealing with traders emotions. Getting new traders to the point where they can manage their emotions well takes time and costs us a lot of money. Figuring out how to speed that process up – that would be the holy grail."*

Analytical Strategy: Self-reflection and writing down trades. Self-reflection and writing down trades was identified as a useful emotion management strategy among the traders with medium and high amount of experience. The act of writing things down is aimed at making the decision more analytical and is used as a mechanism for reducing the emotional content of an action or decision. These written entries also served as a useful mechanism for reflection and analysis over a period of time. Reviewing their own decisions and the outcomes of those decisions helped these traders understand and identify more effectively the sort of decisions and style that worked for them more often and those that did not. Many traders also used this process as a commitment strategy, requiring themselves to write down their reasons when they decided to change strategy.

"One of the really good things, just over the last couple of years, has actually been the process of writing down a lot of my significant trades. When you write them down, it does tend to take quite a bit of the emotion out of it. You write down what the trade is, your entry, your exit, your stop-loss, what the trade is, and why you've put it on. Then what I'll do is, once I've exited the trade, I'll also write a comment about my exit process so that I can go back and analyze my own trading and figure out what I'm good at, what I'm not, if there's any trends to my trading, anything like that" (FX forwards trader, 10 years of experience).

"I know what mistakes I think I've made. I've started writing it down, things I do wrong. I've started recording every trade I do, so at the end of the year, I analyse that and I say, right, where did I go wrong? And, what I should do, if this is working 80% of the time, let's do this more" (Director, FX Spot, 15.5 years of experience).

"When you write about what you have done today, oh, I forgot I made that price, I forgot... oh, yeah. And you force yourself, okay, what's the plan for tomorrow because you're not going to make the plan at home once you have... And in the morning you arrive, it's very busy, you don't have time to make a plan, at least in my world I didn't have time. So in the evening take a step back, analyse the day. Say,

okay, mm, I don't really like my position because I think tomorrow is going to be like this…" (FX options trader, 7 years of experience).

The less experienced traders too spoke of reflection. However their approach was underdeveloped in comparison to the traders with high and medium amount of experience and they had no specific methods or techniques.

*"I've learnt that through experience, and through looking back and trying to work out when do I make my most mistakes, and when am I most successful? And trying to work out is there a positive or negative emotional side to those mistakes." (*FX spot, 4 years of experience).

"I try and rationalize these things, so I try and say: what did I do wrong; how did I miss it; what caused me to miss it and how do I stop that happening in the future?" (FX spot, 4.5 years of experience).

Commitment strategy: Having an exit strategy before entering a trade. This approach adopted most commonly by traders with medium amount of experience is primarily aimed at ensuring a commitment strategy which they aim to stick to even in the face of conflicting emotional influences. The logic behind this approach rests within the premise that the exit strategy which is determined before entering the trade is decided upon at a time when the trader is emotionally disconnected to the trade and is more capable of making a rational logical decision as opposed to an emotional one.

"It's not that I've become better; it's that I've found tricks or ways not to have my emotions pick up. So it could be, let's say, you have a position and if you decide exactly, okay, this is what I think is going to happen, this is how I think I'm going to make money, well, if this doesn't happen and this happens then I need to cut. So if

you play all the scenarios and you have clear exit strategies, then it's easy because you know exactly how much you're going to lose if it doesn't happen the way you want. You know how much you're going to make…I think controlling your emotions works by having a plan and be rational about the thing, rather than getting too attached to something and having no plan. That's the way I see it." (FX options trader, 7 years of experience)

"In trading…before you enter a position, you should be very clear about when you exit. What has to happen for you to say, okay. I'm a good trader, but this time I must be wrong. It's better to cut it here and to know what the problem is, as opposed to start hoping, and this is challenging. To always make sure you're honest with yourself, and you do not start to hope that something is going to be all right." (FX options trader, 15 years of experience).

Among the more senior traders and managers, this strategy tends to be more evolved and the initially decided positions or levels are changed only in the case of exceptionally unusual circumstances.

"I would say nine out of ten times, unless there's a world war or a president shot or something that I know can influence the market short-term at least, I will stick to those levels. Because I decide on these levels before I have a position. I simply decide on these levels and then whether I'm short or long doesn't really matter; these are the important levels." (COO FX spot, 25 years of trading experience).

Novice traders do make some attempt in the direction of having an exit strategy to help manage their emotions but still appear to be swayed at the last minute and are prone to changing it.

"I try and write down the trades before I initiate them, and look at them, at the possible outcomes, and then trade according to that. But then you're continuously reassessing every trade you have..." (FX forwards, 2.5 years).

CONCLUSIONS

This research advances the work done previously in the area of emotions in the workplace (e.g. Brotheridge & Grandey, 2002) and emotion regulation (Gross, 2002). It also sheds light on the role of emotion regulation in the development of trader expertise.

Prior work has often either focused on very generic emotion regulation strategies or on how those generic strategies unfold in the particular context of customer service encounters. In this study we have focused on a domain in which emotions must be regulated during fast-paced decision-making with high stakes outcomes and under conditions of significant cognitive load.

We did find evidence of the generic emotion regulation strategies described by Gross and colleagues. In relation to these generic strategies, approaches to emotion regulation seem to vary considerably with the expertise gained by the trader. This is consistent with the results reported by Fenton-O'Creevy et al. (2010). The traders with low levels of experience tend to adapt a more passive approach to management of emotions and their approach tends to be more one of suppression and situation avoidance. Such emotion management mechanisms appear to be aimed mainly at controlling the appearance of emotions rather than regulating their impact. It is also clear that, for these low status traders, overt emotion displays carry more social risks than for higher status traders. The more experienced traders tend to have a more proactive approach to emotion management. For these traders, emotion regulation strategies are aimed not only at managing emotions but also learning from them; reflecting on past decisions and emotional influences and evolving a personal trading style based on this learning.

We also found highly domain-specific emotion regulation strategies. In particular traders approach to writing down strategies and to pre-defined exit strategies served as important mechanisms for emotion regulation. Here, the processes by which they regulated their emotions and regulated the impact of their emotions on their behaviour seem closely intertwined.

It was also clear that emotion regulation was as much a social as an individual process. In particular, managerial support was recognized by traders as useful in terms of emotional acceptance; and facilitated overcoming chronic self-doubt and lost confidence which was identified by traders as extremely detrimental to effective trading.

We are currently carrying out further analysis of detailed data that brings together video recordings of 5 traders (with experience ranging from novice to expert) as they traded across two trading days in which there were important market news releases, time stamped trading data and heart rate data of the traders collected at the time of trading. Combination of the traders' video recordings, heart rate data and trading data should allow for a more detailed analysis of emotion regulation processes and their impact on trading. This additional analysis is expected to be completed in time for presentation at the conference to supplement the data and conclusions presented thus far.

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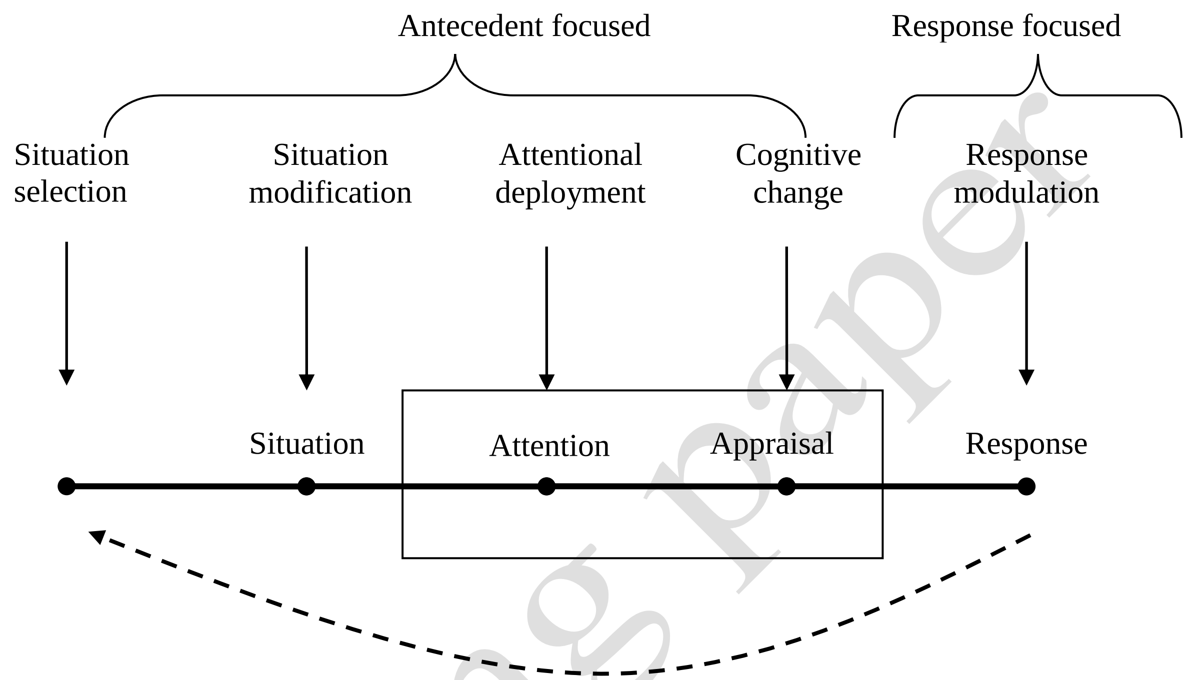
Figure 1: Emotion regulation



Source: (Gross & Thompson, 2007: 10)