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**Steven Lockey**

**THE ROLE OF EMOTIONS AND INDIVIDUAL DIFFERENCES IN  
THE TRUST REPAIR PROCESS**

**Abstract**

Organizational trust and trust repair are topics that have primarily been considered from a cognitive perspective. Although a number of scholars have called for further investigation into the role of emotions and individual differences in these processes, little empirical research has been conducted. A reason for this may concern how trust is usually measured in the organizational literature, through measures relating to the trustworthiness characteristics of others. This thesis argues against such a “perceived trustworthiness paradigm” (Möllering, 2013a) and empirically tests the approach conceptualised by Dietz and Den Hartog (2006) which asserts that trust is a process consisting of attitudinal and behavioural processes comprising of belief, decision, and action. It primarily investigates the influence of emotion and emotion-related individual differences in repairing trust, and whether they are integral to the proposed process model. Three studies are conducted to investigate these questions. Studies 1 (N = 82) and 2 (N = 253) are experiments carried out to determine to what extent change in affect influenced participants’ change in perceptions of a coach company from post-violation (a coach crash) to post-trust repair effort (CEO’s response), and their willingness to trust in it. Study 3 (N = 135) is a cross-sectional survey of Volkswagen vehicle owners in the aftermath of the 2015 Emissions Scandal undertaken to measure the trust process in its entirety with people actively involved in a trust violation. Results indicate that negative emotions are influential predictors of trust repair effects and relate strongly to distrusting acts. Individual difference effects were generally not found, but the proposed process model of trust was supported, with willingness to trust mediating the relationship between perceptions of trustworthiness and distrusting acts. Emotions appeared to become more influential as the trust process developed, and findings imply that purely cognitive models are not sufficient to fully understand the nature of trust and its repair.

Key words: Trust, Trust Repair, Process, Emotion, Fear, Anger, Contempt

**THE ROLE OF EMOTIONS AND INDIVIDUAL DIFFERENCES IN  
THE TRUST REPAIR PROCESS**

**Steven Lockey**

Thesis Submitted in Fulfilment of the Requirements for the degree of  
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**Durham University Business School**

**Durham University**

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### List of Abbreviations

The following table describes the significance of various abbreviations used in this thesis. The page on which each one is first used or defined is also given.

Abbreviation	Meaning	Page
ABI	Ability, Benevolence, Integrity	2
AIM	Affect Intensity Measure	143
ANOVA	Analysis of Variance	106
BTI	Behavioral Trust Inventory	14
CARB	California Air Resources Board	169
CEO	Chief Executive Officer	56
DES	Differential Emotions Scale	71
DET	Differential Emotions Theory	71
ECCB	Ecologically Conscious Consumer Behavior	185
EISM	Emotional and Interpersonal Sensitivity Measure	105
EPA	Environmental Protection Agency	170
GFC	Global Financial Crisis	44
GRFM	General Regulatory Focus Measure	106
INA	Implicit Negative Affect	105
IPA	Implicit Positive Affect	105
MTurk	Amazon Mechanical Turk	89
NA	Negative Affect	5
NO <sub>x</sub>	Nitrogen Oxide	170PBC
OTI	Organizational Trust Inventory	14
PA	Positive Affect	74
PANAS	Positive and Negative Affect Schedule	70
PBC	Private Body Consciousness	83
SEM	Structural Equation Modelling	36
SSI	Social Skills Index	106
TMT	Top Management Team	57
TNA	Trait Negative Affect	75
TPA	Trait Positive Affect	75
VW	Volkswagen	168
WVU	West Virginia University	169

## Acknowledgements

I would like to begin by thanking my supervisors, Bob Lord and Rosalie Hall. More than that, I want to express my eternal gratitude to them for supporting me through this process, particularly given the circumstances of them becoming my supervisory team. I know that trust is not a topic that would be at the top of either Bob's or Rosalie's list of research interests, yet the attention, support, and guidance they have provided me has been wonderful. It is certainly more than I could have hoped for. I am incredibly lucky to have worked with such a supervisory team, because as well as being so good professionally, I was struck by their kindness, warmth, and patience. Especially their patience (I'll learn how to properly format a table one day, I promise!). I will strive to ensure that the time and effort they have afforded me has been worthwhile.

Of the other academic colleagues that have provided support to me in one way or another, I want to thank Birgit Schyns most of all. If it were not for Birgit's support as PhD Director in 2013, I would not have been offered a scholarship to undertake this thesis. Without that financial support, it would not have happened. I would also like to thank the following for their advice and guidance throughout this process, whether it be through giving guidance their thoughts on a particular issue, providing useful feedback at a review session, or simply offering a kind word when I was in need of one: Nicole Gillespie, Tom Redman, Julie Wilson, Oliver Mallett, Susanne Braun, Michael Knoll, Markku Jokisaari, Mark Learmonth, Matt Hughes, Kiran Fernandes, Nick Ellis, Mike Nicholson, and Denise McBride. I must also acknowledge the Durham University Business School Doctoral Office, led by Frances Paylor, for the work they have put in behind the scenes to make the programme run smoothly. Any time I have had to request something from them or interact with them in any way, my issue has been dealt with promptly and efficiently.

Of course, I must acknowledge the love and support of my family. I don't think they really know what it is that I've been doing for the past three years, just that it should officially end at some indeterminate point in the autumn of 2016, and that it involves a document that is quite long. Nevertheless, they have been so supportive of me. Without the encouragement of my parents I would never have got to this point.

Although, proud as they are of me being the first person to go to university in my immediate family, I think they probably wished I had stopped after undergraduate level from a financial perspective!

Finally, I want to say a huge thank you to my partner, Lois, for putting up with me. We met just as I was starting this PhD process, so she's been through it all with me. She's been the one who has had to listen to my frustrations and worries, and always seems to know the right things to say to keep me centred. As things have got busier, she's never grumbled when I've had to spend time working upstairs, got in from university late, or otherwise not been able to spend time with her. She knows that when I've been working late, "I'll not be long" tends to mean that I stumble into bed at about 1am and wake her up in the process. Her constant love and support have made the last three years and their trials and tribulations bearable. It is not hyperbole for me to say, knowing what I know now, that I would not have been able to do this without Lois.



## **Dedication**

### **For Graham Dietz (1969-2014)**

This piece is the last I have written in this thesis. For all the frustrations and difficulties I have experienced over the course of developing this body of work, it is this section that I have found hardest to write. It means the most because, in the grand scheme of things, it is the most final. The content of my thesis will be developed further over time. However, this dedication is the first, and quite possibly the last, time that I will sit down, reflect, and commit to writing about a very sad time in my life, and someone who meant so much to me and many others.

In keeping with the theme of the thesis, one that places emotion at its core, I have decided to write the following “from the heart”, eschewing the temptation to re-write it. Hence, it is very much a stream-of-consciousness piece that I hope will go some way to encapsulating my feelings.

I dedicate this thesis to Graham Dietz, a wonderful mentor, scholar, and friend. I first met Graham during my MSc in Management at Durham University Business School. I found him funny, charming, and organised, in the course induction sessions, but it was his passion for and knowledge of Organisational Behaviour that was particularly impressive. This was magnified about a third of the way through the course when we got to his favourite subject. Trust. There’s a lot of talk about “the spark” or the “eureka moment” in teaching, that moment when a student “gets” something. When Graham spoke about trust, I feel like I got it, and that it was an important topic. It may be that if he’d have been an expert in authentic leadership, voice, or any other Organisational Behaviour concept, I would have become interested in one of those instead. I think that’s testament to his quality as a lecturer, the passion he had for his specialism, and the force of his personality. Either way, without Graham I certainly wouldn’t have caught the trust bug. Under his supervision, I wrote my MSc dissertation on Parliamentary trust repair in the wake of the UK MPs’ expenses scandal. At this point, I felt as though I was beginning to really understand the topic. As things fell into place, Graham encouraged me to develop a PhD proposal based around a curious lack of investigation into emotion in the trust repair literature.

It was around this time that I got to know Graham better on a personal level, mainly through football (whether it be playing, or lamenting the fortunes of our respective teams). In getting to know him better, I was struck by three things in particular. The first was how he would visibly light up when talking to or about his wife, Valeria, and son, Liam. The second was his unerring moral compass, refusing to patronize businesses that he believed to be unethical. For instance, he would not use Amazon due to their tax avoidance, and would choose to go to small, local cafes rather than the large, tax-evading, Starbucks. In trust parlance, he had a great deal of integrity, and certainly practiced what he preached. Finally, for all I sometimes thought Graham could be a little scatter-brained when it came to menial matters, he never seemed to forget a name, and his knowledge of his discipline was razor-sharp. I remember on one occasion, early in the first year of this process, he'd forgotten that we'd had a meeting planned, forgotten his phone, and left his bag in a lecture theatre. I suggested re-arranging the meeting, assuming that he would not be prepared without his materials. He would have none of it. When we got to the matter at hand, he summarised our last meeting, recalled what I had sent him via email in the interim, gave his thoughts on the questions I had posed, and reeled off some citations that I might look at to help further my understanding, amongst other things. I remember chuckling to myself as I left. How could someone so disorganised and forgetful in some ways be so thorough and able in others? That was Graham; quirky and brilliant in equal measure.

Another task I have undertaken at the end of this writing-up process is gathering together all of the necessary secondary documents that need to be submitted with the thesis. These include ethics forms. Being the rather anxious person that I am, I remember feeling quite nervous about the form I had to fill in for my first study. Would it be ok? Would I be hauled before the Sub-Committee for Ethics? Would I need to change my plans? As I look back to the date that Graham signed the form, 14<sup>th</sup> November 2014, those worries pale into insignificance with the benefit of hindsight. Just over a month after signing my ethics form, Graham passed away.

I was heartbroken. That Christmas was particularly unpleasant as I grieved for Graham and his family, and worried about my own future. At that point, I wasn't sure that I would be able to continue this work, or, for a short time, if I would even want to.

As mentioned in my Acknowledgements, thanks to the support and encouragement of Bob Lord and Rosalie Hall, I was able to continue, and now here we are.

So, Graham, this thesis is for you. Without you, it wouldn't exist. It might not have taken the form that we originally envisioned at the outset, but I hope you would be proud of it and that it is worthy of you. I'm proud to have been your student, prouder to have been your friend, and I miss you very much.

## Chapter 1: Introduction

### A Brief History of Trust Research

Trust and the question of what its antecedents are have been a subject of scholarly debate for centuries, with some of the most renowned philosophers in history documenting its importance. For example, as far back as the 4<sup>th</sup> century B.C., Aristotle argued in his classic work *Rhetoric* that one who displays good sense, good moral character and goodwill will inspire trust from his audience. The philosopher Confucius asserted that three things are needed for government: weapons, food, and trust. If a ruler cannot hold on to all three, he should give up weapons first and food next, for “without trust, we cannot stand” (O’Neill, 2002). Interestingly, Machiavelli disagreed, believing that a prince should aim to be both loved and feared, but if both are not possible, he should choose to be feared rather than loved (O’Neill, 2002).

The history of the topic of trust in psychology and sociology has a somewhat shorter tradition, and in the organizational and management literature, it is shorter still. Early work in psychology established the proposal that trust has a motivational element (Deutsch, 1958; 1960). Deutsch was an early proponent of the behavioural approach to trust, which focused on measuring trust as an outcome, primarily in experimental scenarios (Kramer, 1999; Lewis & Weigert, 1985). Half a century prior to Deutsch’s work, the German sociologist Georg Simmel proposed that trust has a “further element” that transcends inductive reasoning (1990: 179 [1900] in Möllering, 2001). Lewis and Weigert (1985) recognised Simmel’s contribution in their own work, recognising the “further element” to trust, and choosing to consider it as a sociological phenomenon rather than a psychological construct (Möllering, 2001). They considered trust to have both cognitive and emotional components, suggesting that although there must be a cognitive element of “good reasons” based on perceptions of others’ trustworthiness present to take the decision to trust, the decision cannot be made based on such good reasons alone (Lewis & Weigert, 1985: 970). Lewis and Weigert (1985: 972) note that “trust in everyday life is a *mix* of feeling and rational thinking”, and other work indicates that emotion may be the “further element” to trust (Möllering, 2001).

In the organizational and management literature, the area within which this thesis focuses, the 90’s were a particularly important decade. Many of the seminal

works from the 1990's laid the conceptual foundations of the topic and are still heavily cited today (e.g., Das & Teng, 1998; Kramer, 1999; Lewicki & Bunker, 1996; Mayer, Schoorman & Davis, 1995; McAllister, 1995; Robinson, 1996; Rousseau, Sitkin Burt & Camerer, 1998). Of these works, Mayer and colleagues' (1995) seminal "ABI" (ability, benevolence, integrity) model of trust has had the most enduring impact on the organizational trust literature, and on the manner in which trust is conceptualised and measured today.

Although the ABI model represents an improvement because it takes a relational approach, rather than the behaviourist perspective of early work into trust (Kramer, 1999), there are still potential problems with it. Primarily, it has led to an overly rational perspective of trust, with the implication that people trust largely based on perceptions of the trustworthiness of another party. Möllering (2013a: 54) referred to this as the "perceived trustworthiness paradigm" and notes that the Mayer et al. (1995) model "is not limited to, but mostly referred to in terms of its three dimensions of perceived trustworthiness: ability, benevolence and integrity". The empirical link between perceived trustworthiness and trust is robust and well-established (Colquitt, Scott & LePine, 2007), however to quote Möllering (2013a: 54), only considering what is known about others "reduces trust to its least interesting part – processing of available information – whereas the more striking issue is how people deal with incomplete or inconclusive information". In other words, the "further element" to trust is missing if we only consider it in terms of prior knowledge about other people. Yet it is in this element that the desire for, interest in, and importance of trust lies. As this dissertation will show, the further element in question may be emotion. Further discussion of this argument and its implications on the conceptualisation and measurement of trust continues in Chapter 2.

### **Trust Repair in the 21<sup>st</sup> Century**

The new millennium has seen research interest in trust grow further. The study of trust repair, which is central to this thesis, has seen exponential growth since 2000. Indeed, the review of the trust repair literature in Chapter 3 shows that the majority of work into the subject has taken place in the new millennium. Special issues of prominent journals have focused on trust repair (Academy of Management Review, 2009, Vol. 34, Issue. 1; Organization Studies, 2015, Vol. 36, Issue 9) and individual

or organizational reintegration after ethical or legal transgressions (Business Ethics Quarterly, 2014, Vol. 24, Issue 3).

The increased focus on trust repair over the last twenty years should not be surprising. In recent years, corporations and public bodies have been engulfed by a myriad of scandals, and organizational legitimacy and stakeholders' trust are at a premium (Moran, 2013). When organizations engage in wrongdoing, stakeholders typically withdraw support and resources, damaging the ability of the organization to survive and thrive (Elsbach, 2003). For this reason, understanding how organizations can repair broken trust and relationships with stakeholders is an especially important and salient issue. If trust is violated, trust-informed behaviour is less likely to be demonstrated (Dirks & Ferrin, 2002). The violated party is likely to re-evaluate their relationship with the violator (Lewicki & Bunker, 1996), may retaliate (Bies & Tripp, 1996), and may even withdraw from the relationship (Robinson, 1996).

Surprisingly, and perhaps due to the dominance of the perceived trustworthiness paradigm, trust repair has largely been considered from a cognitive, rational perspective, mostly ignoring the intrinsically affective nature of trust violation (Schoorman, Mayer, & Davis 2007). While research on close, interpersonal relationships has focused on emotional responses to trust violations and their consequences (Fitness & Fletcher, 1993; Haden & Hojjat, 2006), such a focus in organizational research has been lacking. However, as this dissertation will demonstrate, reactions to organizational transgressions are not purely rational. Rather, they have a strong emotional component which is particularly important in trust repair and influences stakeholder attitudes and behaviours towards the offenders.

### **Chapter Overview**

This introductory chapter outlined a brief history of trust research. It demonstrated that, largely due to the prominence of Mayer et al's. (1995) seminal model, organizational trust scholars have converged on a "trustworthiness paradigm" (Möllering, 2013a) which implies that the decision to trust is taken based on sound evidence of the trustee. However, this paradigm reduces trust to its least interesting form and has generally led to a very rational understanding of the construct in the organizational literature. Moreover, it does not take into account the further element to trust proposed by sociologists such as Simmel, Lewis and Weigert, and Möllering.

As per Lewis and Weigert (1985), I propose that this “further element” may be emotion, and that trust is not entirely rational.

### **Thesis Overview**

Chapter 2 builds on this foundation by defining and reviewing the trust literature. It returns to the topic of conceptualisation and the pervading tendency of scholars to consider trust from the perspective of trustworthiness beliefs, outlining the problems that such a perspective entails with regards to how trust is measured. I offer an alternative perspective, that of trust as a process. Conceptualising trust as a process allows scholars to delineate perceptions of trustworthiness beliefs from actual trust and to depart from the perceived trustworthiness paradigm. In turn, this enables consideration of the further elements of trust that make it desirable and necessary, such as emotion. I then review the small body of work that has considered the role of emotion in trust development. Findings indicate that the perceived trustworthiness paradigm is still pervasive in these articles, which are conceptual. These issues imply that adequate empirical investigation of emotion in trust research is still lacking, something that this thesis seeks to address. Finally, other trust-related concepts that are key to this thesis are reviewed. Namely, distrust and research into the influence of various individual differences on trust.

Trust repair, which is the focus of this dissertation, is addressed in Chapter 3. This chapter illustrates the variety of methods that have used to address this topic. A critical point illustrating the value of this dissertation, is that there are very few articles addressing the emotional aspects of trust repair, despite the fact that breach of trust is a betrayal that provokes strong emotional responses.

As there has been such little research into emotion in both the trust and trust repair literatures, is there any reason to consider it? Chapter 4 considers this argument, turning to literature that explores the role of affect in information processing. Specifically, the theory of feelings-as-information is reviewed. This theory suggests that emotions may play an integral role in the processing of information, how it is perceived, and how people make decisions. It indicates that emotions are integral to complex social processes such as trust.

Reviews of the relevant trust, trust repair and emotion literatures indicate that there are research gaps that are worthy of exploration. First, there is a general lack of

consideration of the role of mood and specific emotions in the trust repair literature. Second, other than trust propensity, individual differences have been largely neglected in the study of trust, and particularly in the trust repair literature. One previous study showed that regulatory focus was influential in predicting generalised trust. However, to date, there is no research relating to it in studies of trust repair. Furthermore, feelings-as-information theory dictates that emotion-related individual differences are likely to determine how and when emotions influence information and decision-making processes. Hence, the research programme described in this dissertation includes regulatory focus and emotion-related individual differences to determine their relevance in the repair of trust. Finally, few studies of either trust or trust repair explicitly consider trust as a process, with some quantitative measures either solely considering perceptions of trustworthiness, or conflating trustworthiness and trust into a single measure. These issues raise questions about what is being measured. Taking a process perspective allows us to develop a more nuanced understanding of how emotions may interact with perceptions of trustworthiness, and attitudinal and behavioural manifestations of trust itself. Thus, Chapter 5 outlines these issues and presents a research programme of three studies that empirically investigate questions relating to these three research gaps. A methodological rationale for the approaches taken in the three studies concludes the chapter.

The following section of the dissertation pertains to its primary research programme. Chapter 6 presents the results of Study 1, which focused on the role of mood states and emotion-related individual difference in an experiment that measures the belief and decision components of the trust process after an organizational-level ability failure and subsequent trust repair attempt. Foreshadowing results, there was enough supporting evidence linking trust and affect to encourage further investigation. Hence, Chapter 7, pertaining to Study 2, used the same experimental design in an attempt to replicate and extend findings. Additional variables related to specific emotions towards the target organization and further emotion-related individual differences were included, and a larger sample was solicited. Replicating results of Study 1, change in negative affect ( $\Delta$  NA) was influential in predicting  $\Delta$  trust, controlling for  $\Delta$  perceptions of trustworthiness. Moreover, the specific emotions of  $\Delta$  fear and  $\Delta$  joy were predictive of  $\Delta$  trust, controlling for both  $\Delta$  trustworthiness and  $\Delta$  negative affect. Finally, the primary focus of Study 3, detailed in Chapter 8, was to



replicate the results of Study 2 and measure the trust process in its entirety by utilising a cross-sectional design and a scenario of personal relevance to participants. Results suggest that mood and specific emotions are influential in not just the decision to trust, but in predicting distrusting behaviours as well.

The final chapter returns to each of the research questions posed in Chapter 5 and the extent to which they were answered within this research programme. A general discussion and implications for theory and practice, follows. In sum affect, particularly negative affect, related significantly to attitudinal measures of trust and behavioural measures of distrust, indicating that trust may not be so rational after all. Individual differences did not prove to be particularly influential in trust repair. Finally, the study of trust as a process and the separation of perceptions of trustworthiness beliefs and willingness to trust provided some interesting results. Namely, emotions appeared to influence perceptions of trustworthiness very differently to willingness to trust and distrusting behaviours. As the trust process developed, perceptions of trustworthiness became less relevant, and the role of certain affective responses became more influential. These results indicate that the “further element” to trust may indeed be rooted in emotion, and that we should break free from the perceived trustworthiness paradigm. The thesis concludes by acknowledging its limitations and providing some directions for future research.

## Chapter 2: Trust

This chapter provides a general review of the trust literature, presenting the two most common conceptualizations of trust and critiquing them from a methodological standpoint, before describing the “trust as process” conceptualization that I adopt in the current study. Following this, some key scholarly debates in the trust literature relevant to my study are described, such as whether trust and distrust are opposite poles of the same dimension or are separate constructs. Also, because I argue that trust inherently has a basis in emotion, I provide an overview of recent research in this area and explain how my perspective differs from the affective trust conceptualization popularized by McAllister (1995). The chapter concludes by exploring some of the dispositional antecedents of trust (i.e., biological, trait, and attitudinal factors) posited in previous literature.

### Definitions of Trust

Scholars have proposed many different conceptualisations of trust in a wide range of disciplines (see **Table 2.1** for a list of definitions). However, the organizational literature is increasingly converging on common definitions (McEvily & Tortoriello, 2011). Prior reviews of the trust literature indicate that two key dimensions are prevalent in the majority of definitions of the concept: *positive expectations of the trustworthiness of another party* and *a willingness to be vulnerable* (Dietz & Den Hartog, 2006; Kim et al., 2004; McEvily & Tortoriello, 2011). ‘Positive expectations of trustworthiness’ generally refers to “perceptions, beliefs or expectations about the trustee’s intention and being able to rely on the trustee” (Fulmer & Gelfand, 2012: 1171). ‘Willingness to be vulnerable’ refers to the inclination of the trustor to take a ‘leap of faith’ (Lewis & Weigert, 1985; Möllering, 2006) or an intention or decision to take a risk and depend on the trustee (Li, 2012). These dimensions appear in the two definitions of trust that are most cited by organizational scholars. Much of the research, across levels and referents, utilises the definition proposed by Mayer et al. (1995). They define trust as “*the willingness of a party to be vulnerable to the actions of another party based on the positive expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party*” (p. 712). Other research has drawn upon the work of Rousseau and colleagues (1998: 395), who define trust as “*a psychological*

*state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another”.*

I accept the definition proposed by Mayer and colleagues (1995) for my current study. Rousseau et al.’s. (1998) definition is also widely cited, yet I do not agree with its explicit assertion that trust is merely a psychological state. Indeed, the debate as to whether trust should be considered as a psychological state or behaviour is one that has long divided scholars. I now review the two conceptualisations, before presenting a third perspective that combines the salient elements of both.

### **Trust-as-Behaviour**

Research based on early empirical work (i.e. Deutsch, 1958) tended to conceptualise trust as an overt behaviour. For example, Currall and Judge (1995: 153) defined trust as “*manifestations of behavioural reliance on another person under the condition of risk*”. Kramer’s (1999) review discussed trust as a rational choice behaviour and trust as a psychological state (attitude). From the rational choice perspective, people are expected to make the decision to trust based on rational, efficient judgements that take into account the likelihood of maximising gains or minimising losses (Kramer, 1999). Schelling (1960 in Kramer, 1999: 572) noted that choice is motivated by “conscious calculation of advantages that is in turn based on an explicit and internally consistent value system”. We would expect that if trust is indeed a choice, a rational perspective would be an adequate conceptualisation: one simply decides either to trust another party or not. However, March (1994: 7) noted that rational theories may not be empirically viable, and that “although decision-makers try to be rational, they are constrained by limited cognitive capacities and incomplete information, and thus their actions may be less than completely rational”. Moreover, trust-as-behaviour is very heavily cognitive and affords little to the role of emotions and other social intricacies. As Granovetter (1985: 470) notes, such a concept provides an under-socialised conceptualisation of trust, stating that “actors do not behave or decide as atoms outside a social context”.

**Table 2.1 - Definitions of Trust**

<b>Psychology and Sociology</b>	
Deutsch (1958)	“An individual may be said to have trust in the occurrence of an event if he expects its occurrence and his expectations lead to behaviour which he perceives to have greater motivational consequences if the expectation is not confirmed than positive motivational consequences if it is confirmed” (p.265).
Deutsch (1973)	“The confidence that one will find what is desired from another, rather than what is feared” (p.161).
Cook & Wall (1980)	“The extent to which one is willing to ascribe good intentions to and have confidence in the words and actions of other people” (p.39).
<b>Management</b>	
Zand (1972)	“Actions that (a) increase one’s vulnerability, (b) to another whose behaviour is not under one’s control, (c) in a situation in which the penalty (disutility) one suffers is greater than the benefit (utility) one gains if that person does not abuse that vulnerability” (p.230)
Gambetta (1988)	“The probability that a person with whom we are in contact will perform an action that is beneficial or at least not detrimental is high enough for us to consider engaging in some form of cooperation with him” (p.217).
Mishra & Morrissey (1990)	“One party’s willingness to be vulnerable to another party based on the belief that the latter party is (a) competent, (b) open, (c) concerned and (d) reliable” (p. 265).
Mayer et al. (1995)	“The willingness of a party to be vulnerable to the actions of another party based on the positive expectations that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (p.712)
McAllister (1995)	“The extent to which a person is confident in, and willing to act on the basis of, the words, actions and decisions of another” (p.25).
Fukuyama (1995)	“The expectation that arises within a community of regular, honest, and cooperative behaviour based on commonly shared norms on the part of other members of that community” (p.26).
Currall & Judge (1995)	“Behavioural reliance on another person under a condition of risk” (p.153).
Rousseau et al. (1998)	“Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviors of another” (p.395).
Lewicki et al. (1998)	“Confident positive expectations regarding another’s conduct” (p.439).

**Table 2.1** continued.

Zaheer et al. (1999)	“The expectation (1) can be relied on to fulfil obligations, (2) will behave in a predictable manner, and (3) will negotiate fairly when the possibility for opportunism is present” (p. 143).
Castaldo et al. (2010)	“(a) An expectation (or a belief, a reliance, a confidence, and synonyms/aliases) that a (b) subject distinguished by specific characteristics (honesty, benevolence, competencies, and other antecedents), (c) will perform future actions aimed at producing (d) positive results for the trustor (e) in situations of consistent perceived risk and vulnerability” (pp. 665-666).

From an empirical perspective, behavioural trust is often operationalized as cooperation; as the level of one’s cooperation changes, so, it is argued, does one’s level of trust (Axelrod, 1984; Deutsch, 1958; 1973). However, this has been criticized as making inferences about trust based on cooperative behaviour may not be accurate; increased or decreased cooperation may stem from other factors (Lewicki et al., 2006). For example, one may demonstrate trusting behaviours towards a co-worker, such as cooperation, risk-taking or divulging sensitive information without trust actually being present. Rather, such behaviours may be elicited due to other factors, such as coercion or workplace norms. Equally, one may trust another without having the opportunity to overtly demonstrate that trust (Romano, 2003). Finally, from a psychological perspective, the trust-as-behaviour approach has been deemed to be too cognitive. To this end, some scholars have developed what Kramer (1999) calls relational models of trust (see Mayer et al., 1995; McAllister, 1995; Tyler & Kramer, 1996).

### **Trust-as-Psychological State**

The trust-as-psychological state position conceptualises trust as a complex construct with multiple intrapersonal considerations, such as expectations, affect, disposition and intentions (Lewicki et al., 2006). As Lewicki and colleagues (2006: 996) state: “whereas those who espouse the behavioural approach “fast forward” to the action, the psychological approach “backs up” to consider the cause of that action”. In this respect, psychological approaches allow for the fact that trust may occur for reasons other than, or in conjunction with, rational choice. However, there have been objections to the trust as psychological state school of thought. Firstly, while trust-as-choice focuses almost exclusively on behaviour, trust-as-psychological state may or may not include a behavioural element at all. Li (2007; 2012) argues that trust only

matters if it involves trusting behaviours that make the trustor vulnerable to the trustee. In their paper on the dark side of trust, Skinner, Dietz, and Wiebel (2013) argue that “insincere trust”, that which is expressed but not supported by actions, can have negative implications for both the trustor and the trustee. The authors state that “trust cannot only be viewed as a psychological state [...] the act is *real* trust, not the stated willingness to trust.” (p. 218, emphasis present in original text). Li (2012) discussed this issue in his editorial essay on when trust really matters. He suggested that trust as psychological state concerns expectations of trustworthiness. If this is the case, Li (2012; 2016) argues, then trust and trustworthiness become mirror images of each other. A related point was made by Möllering (2013a) while discussing the “perceived trustworthiness paradigm”. The perceived trustworthiness paradigm assumes a direct link between knowledge and trust, indicating that we should only trust when we have sufficient knowledge about another’s trustworthiness. However, is trust *really* necessary in situations when such knowledge is high? We may develop *positive expectations* based on such knowledge, but in doing so, we may reduce our *willingness to be vulnerable*. Indeed, only displaying trust when sufficient knowledge of a trustee is available suggests that one is not willing to be vulnerable. Hence, if trust is only possible when knowledge is high, then the very essence of what makes trust relevant and interesting is lost (Li, 2012; 2016; Möllering, 2013a). Li (2012; 2016) also claimed that trust-as-psychological state is a static concept, and is not sufficient to take into account the dynamic, multifaceted nature of trust and how relationships are formed, developed, and can be damaged and repaired.

My short overview of the two prevalent conceptualisations in trust research shows that each has their problems. The behavioural approach is overly cognitive, focuses solely on the action, and is empirically troublesome. On the other hand, the psychological state approach may not encapsulate trusting behaviours, raises some conceptual issues regarding the role of trust and trustworthiness, and is a static concept. Below, I discuss another conceptualisation, one that encapsulates the positive aspects of both the trust as choice and trust as psychological state.

### **Trust-as-Process**

In recent years, some scholars have conceptualised trust as a process comprised of belief, behaviour, and action (Dietz & den Hartog, 2006; McEvily, Perrone &

Zaheer, 2003; Skinner et al., 2013). In presenting trust as a process, it is salient to discuss the three stages of said process, which I do in this section.

**Belief.** The trust process begins with a set of beliefs about another's trustworthiness. The characteristics that are typically assessed to determine one's trustworthiness are ability, benevolence, and integrity (ABI; Mayer et al., 1995). Ability concerns a person's skills, competence and characteristics that enables him or her to carry out their obligations in a specific domain (Mayer et al., 1995). Benevolence is the extent to which a person demonstrates care and concern to another; that is, the willingness to "do good" to someone when doing so has no egocentric economic benefit (Mayer et al., 1995: 1994). Integrity is the extent to which "the trustor adheres to a set of principles that the trustee finds acceptable" (Mayer et al., 1995: 719). Other characteristics that have been proposed to influence levels of trust include: competence, consistency, discreetness, promise fulfilment, loyalty, availability, openness, receptivity, overall trustworthiness (all present in Butler's trust conditions, 1991), altruism (Frost, Stimpson, & Maughan, 1978), caring (Mishra, 1996) and goodwill (Ring & Van de Ven, 1992). However, the above characteristics can be subsumed into Mayer et al.'s (1995) three trustworthiness characteristics.

Although ABI is the most widely cited of the trustworthiness characteristics models, some believe that something is missing from the model. In this respect, Dietz (2011: 220) describes what he calls the "ABI+" model. Predictability or reliability, which relate specifically to the consistency and regularity of one's behaviour (Dietz & Den Hartog, 2006), is sometimes included alongside ability, benevolence and integrity as a characteristic of trustworthiness (Cunningham & MacGregor, 2000; Dietz, 2011; Dietz & Den Hartog, 2006; McKnight & Chervany, 2001; Mishra & Mishra, 1994). I believe that the need for this addition of predictability/reliability to the model depends upon context. Using a trust repair example, one may not expect a catastrophic organization-level ability failure to happen regularly, whereas an integrity failure may involve repeated cases of malfeasance.

This idea brings us to context and domain specificity. Mayer et al. (1995) state that trust is domain-specific. I am inclined to agree. Chen, Saporito, and Belkin (2011) claim that each trustworthiness characteristic domain spans different boundaries and settings. Ability is task-specific. For example, an academic supervisor may trust a Ph.D. student to work on a paper with him, but not trust that same student to deliver a

lecture to 200 students. Chen and colleagues believe that the domain specificity of integrity relates to life domains (private versus public life or business versus personal life). The authors give Bill Clinton as an example of someone who was considered to act with integrity in his position as president. Indeed, he is regarded as one of the most popular post-war US presidents (Langer, 2001). However, numerous accusations of affairs, including the infamous Monica Lewinski scandal, have brought into question his personal integrity. ABC News captured this duality perfectly at the end of Clinton's tenure: "You can't trust him, he's got weak morals and ethics – and he's done a heck of a good job" (Langer, 2001, para.1). I would argue that in this instance, the "trust" ABC described is not all-encompassing, but reflects views of Clinton in the personal domain. If he was not trusted in his public position, he would not be as popular or perceived to be a successful president. The domain of benevolence, according to Chen and colleagues (2011), is the stage, type, or nature of personal relationships. Thus, perceived benevolence may vary depending on whether the relationship is nascent or at a mature stage of development, on whether there is in-group or out-group status, and on whether there is shared or non-shared social similarity such as gender and race (Williams, 2001). In relation to this point about domain-specificity, Galinsky and Schweitzer (2015) posited that "core violations" are far more difficult to overcome than "non-core" violations. That is, people and organizations are likely to find it very difficult to restore broken trust after they have betrayed the central reason that others have for that trust in the first place. In this respect, Clinton's extramarital transgressions may have been considered to be a non-core violation to the American people, compared to, for example, the Watergate Scandal that ended Richard Nixon's tenure as president.

Methodologically, the belief stage is the point of reference for many of the most commonly cited measures of trust (Dietz & den Hartog, 2006; Dirks & Ferrin, 2002; McEvily & Tortoriello, 2011). In their review of 14 different trust measures, Dietz and den Hartog (2006) showed that eight are based solely at the belief level (e.g. Brockner et al., 1997; Cummings & Bromiley, 1996; Huff & Kelley, 2003; McAllister, 1995; Robinson, 1996; Spreitzer & Mishra, 1999; Tyler, 2003; Tzafirir & Dolan, 2004). In other words, these measures relate to perceptions of trustworthiness. Furthermore, according to the review, two additional measures were based primarily at the belief level with some items implying actions (Mayer et al., 1995; Clark & Payne, 1997).



This poses a quandary; if an empirical work uses one of the aforementioned belief measures, do they actually measure trust? If, as Dietz and den Hartog (2006) stated, trust is not manifested until the second stage of the trust process, then I would suggest not. Although one's belief in another's trustworthiness is considered to be a strong predictor that he will decide to trust (Noteboom et al., 1997 in Dietz & den Hartog, 2006: 559), it does not necessarily mean that he will demonstrate that trust. More complete measures that involve items relating to willingness to be vulnerable and, if possible, trust behaviours, should be included in measures of trust. If interest simply lies in the perceptions of trustworthiness without wanting to measure actual trust, then belief measures would be appropriate.

**Decision.** The decision is the first part of the process in which trust is partially manifested (Dietz and den Hartog, 2006). At this stage, the trustor believes that the trustee is trustworthy enough to be willing to be vulnerable to him. Conversely, one may decide *not* to render oneself vulnerable if there are confident *negative* expectations about the other party (Lewicki, McAllister, & Bies, 1998). This decision not to trust may be based on distrust (Skinner et al., 2013), but this is not always the case. It may be that one does not actively distrust the other party, but does not trust them *enough* in a particular domain or context (as discussed above), does not need to take the risk, or may damage the relationship with another party by taking the decision to trust (Dietz, 2011). Thus, perceptions of trustworthiness are not likely to be the only determinants of trust (Möllering, 2013a). Equally, the decision *not* to trust may not be based purely on distrust.

Few measures focus on the decision stage of the trust process. However, Gillespie's (2003) Behavioral Trust Inventory (BTI) was designed specifically for this purpose. It consists of items worded as behavioural intentions (i.e., "how willing are you to...?"), split evenly between "reliance-based" and "disclosure-based" items. Reliance-based behaviours may involve reduced monitoring or control of a subordinate's actions, or the delegation of work that is important to an actor to another party. Disclosure-based behaviours may include divulging sensitive or potentially damaging information to a colleague. Although worded as behavioural intentions, the Gillespie (2003) items denote a *willingness* to trust; they are not indicators that behaviours have taken or will definitely take place (Dietz & den Hartog 2006; McEvily & Tortoriello, 2011). In addition, note that Mayer and Davis' (1999) Organisational

Trust Inventory (OTI), as well as containing items pertaining to trustworthiness, also included items that indicate a willingness to act, so their measure is another viable option for measuring the decision to trust (Dietz & den Hartog 2006; McEvily & Tortoriello, 2011). McEvily and Tortoriello (2011) also recommended the measure proposed by Currall and Judge (1995), as, like Gillespie's (2003) measure, it taps into the willingness to engage in a trusting behaviour, which Currall and Judge (1995: 152) consider to be "the most proximal antecedent of trusting behaviour".

Recently, Heyns and Rothmann (2015) studied the relations between trust propensity, perceptions of trustworthiness, and the decision to trust. They used the trust propensity and trustworthiness items from Mayer and Davis' (1999) OTI, and Gillespie's (2003) BTI. These authors found that propensity, trustworthiness, and trust were distinct constructs in their sample of 539 single-source responses to a survey circulated among raw material and petrochemical companies in South Africa. Trustworthiness and trust were strongly related, with benevolence and integrity being the more influential facets of trustworthiness. Propensity to trust had a moderate relationship with trust, but only indirectly through trustworthiness. This study appears to be the first to use both the OTI and BTI to measure trust as a multidimensional construct, providing evidence of support for such multidimensionality. However, it did not explicitly measure behaviour.

**Action.** The final stage of the trust process is the action. The decision to trust only suggests an intention to trust, it does not necessarily mean that trust will be realised by way of a trusting action (Dietz & den Hartog, 2006). According to Skinner et al. (2013: 218), the act is "*real* trust" (emphasis present in original text). The action is akin to the behaviour in the behavioural conceptualisation of trust, but the difference is that, as part of the three-stage process, the trust action is not *only* concerned "with the action" (Lewicki et al., 2006; 996), but by considering the process as a whole we may be able to understand more about how that action occurred.

*Vulnerability* is central to the act of trusting. Positive expectations tend to be based on the *belief* that another is trustworthy; in taking the *decision* to trust, one renders oneself willing to be vulnerable. However, it is in the *action* that the aforementioned willingness to be vulnerable translates to actual vulnerability. It is in this vulnerability that trust is manifested (Mayer & Gavin, 2005; Nienaber, Hofeditz & Romeike, 2015). Trusting actions include deliberately reduced monitoring, sharing

valuable resources, increased collaboration and reliance (Dietz & den Hartog, 2006; Gillespie, 2003), and the adoption of a product or service (Kim, Prabhakar, & Park, 2009; McKnight, Choudhury & Kacmar, 2002). Nienaber et al. (2015) contend that trusting behaviours demonstrate either *active vulnerability* or *passive vulnerability*. They deem active vulnerability to include behaviours such as disclosure of sensitive information to another party. Conversely, passive vulnerability includes behaviours such as reliance.

Regarding paper-and-pencil measures, there appear to be no explicit measures of trust actions or behaviours. McEvily and Tortoriello (2011: 39) suggested that the behavioural intention measures proposed by Currall and Judge (1995) and Gillespie (2003) could be manipulated to form actual trust behaviour measures by changing the item prompts from “would” to “have”, it is possible to shift the focus from “intentional and hypothetical to actual and past, behaviours”. Another way to measure behaviour is through experimental manipulation. Indeed, behavioural measures are inherently part of the trust games and prisoner’s dilemma scenarios often used by proponents of the behavioural tradition of trust research (Berg, Dickhaut, & McCabe, 1995). The behavioural manifestations tested by these kinds of scenarios tend to involve either cooperation (the trustor either agrees to continue cooperating with the trustee or does not and ends the game) or monetary stakes (whereby the “trust” the trustor has in the trustee is manifested by the amount of money he or she is willing to share). To date, few studies validate the entire trust process chain by empirically measuring trustworthiness characteristics, trust decision and trusting actions (McEvily & Tortoriello, 2011). One exception is an empirical study of bank customers conducted by Kim, Prabhakar and Park (2009), their behavioural measure was whether or not customers adopted internet banking.

Although Colquitt et al. (2007) conducted a meta-analysis that studied the relationship between propensity to trust, trustworthiness, trust, and a number of behavioural outcomes (specifically: risk-taking, task performance, citizenship behaviour and counterproductive work behaviour), willingness to trust was considered as a proximal indicator to these outcomes; they were not considered as part of the trust process. Conceptually, this differentiation is important. Some of these behaviours do not necessarily relate to “trusting” *per se*. For example, task performance and citizenship behaviour do not necessarily contain the elements of *willingness to be*

*vulnerable* or *positive expectations* that are central to trust. In addition, given the nature of a meta-analysis, it was not possible to disentangle which behavioural outcomes were measured in which context and with which trust conceptualisation. McKnight et al. (2002) developed a trust measure for use in e-commerce that included each step of the process, including trusting beliefs, trusting intentions, and behavioural measures related to providing a vendor with personal information, engaging in a purchase, or acting on a vendor's advice. However, although it was included as part of their model, the trusting behaviours were not measured in the McKnight et al. (2002) study due to the difficulty of obtaining such information. The authors acknowledged this as a limitation of their study and suggested that measurement of trusting behaviours would be a fruitful avenue for future research.

**Summary.** In this section I argued for the conceptualisation of trust as a process, after reviewing the two most prominent traditions in the literature which treat trust as a behaviour or choice, and trust as a psychological state or attitude. Importantly, the conceptualization of trust as a process allows us to integrate traditional perspectives to consider both the psychological and behavioural aspects of trust, paving a way for us to study both the “action” and the causes of that action (Lewicki et al., 2006). Furthermore, as part of my review of trust as a process, I addressed the methodological issue of which stage(s) of the process some of the most commonly utilised trust measures relate to. The majority of measures take place at the belief stage, whilst a few are based at the decision or intention-to-trust level. This may be why the perceived trustworthiness paradigm (Möllering, 2013a) is so pervasive in the literature. No measures explicitly consider the behavioural level, although it may be possible to manipulate some to place them in the realm of concrete behaviours. Furthermore, some studies use experimental methods that have behavioural measures embedded within them. However, a potential issue with such studies is that while some explicitly measure beliefs, the decision to trust is not explicitly measured, rather it is implicitly implied through the behavioural manifestation of a cooperative or economic action. In this respect, it is not possible to measure belief, decision, and action as an integrated, multidimensional framework, or to understand how the different stages of the process relate to each other.

Researchers have been advised to take care in choosing which trust measures to use depending on what exactly they want to measure (Dietz & den Hartog, 2006;

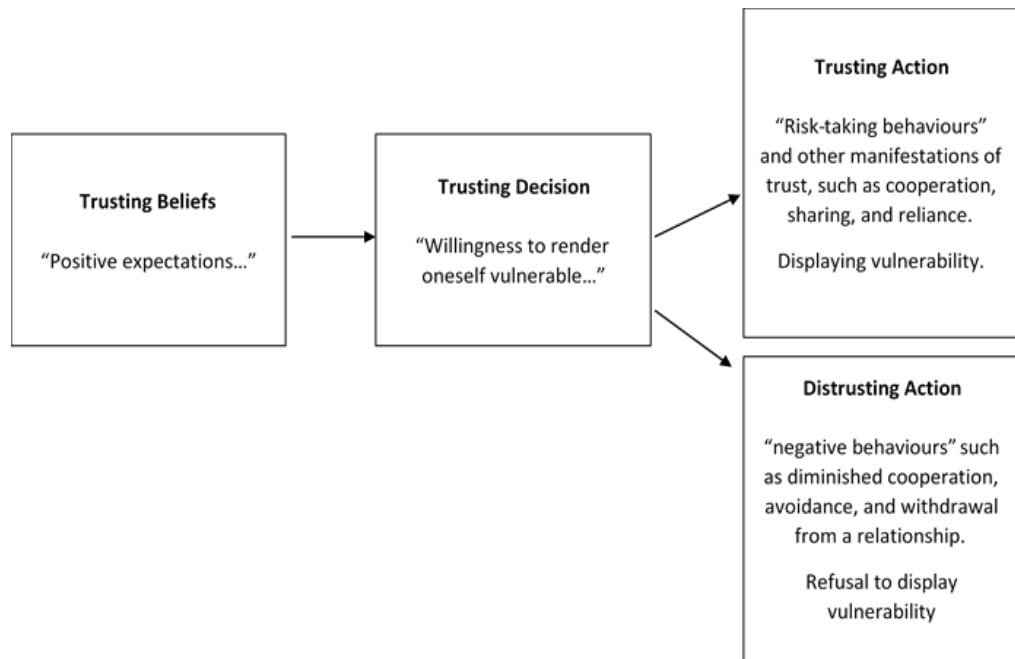
Fulmer & Gelfand, 2012; McEvily & Tortoriello, 2011). For instance, if one wants to measure how much trust an employee has in their manager, then using measures that only take into account the belief stage of the process by focusing solely on perceptions of the manager's trustworthiness will not be sufficient. I argue that, if possible, measures that tap into all three stages of the process should be used in order to measure trust fully. In the three studies conducted in this dissertation, I measure *perceptions of organizational trustworthiness* (belief) and *willingness to trust* (decision) in Studies 1 and 2. As these studies were experimental and not personally relevant to participants, the action stage of the process was not measured. However, in Study 3 I measured the whole process by undertaking a research design that was personally relevant to participants and including a suite of items relating to *distrusting behaviours*, thus measuring the action component of the process. Later in this chapter, I contend that trust and distrust are related but separate constructs. In this respect, questions may be raised regarding the use of a measure of distrust in a process of trust. However, in the context of trust repair, distrust is likely to be particularly salient (Bijlsma-Frankema, Sitkin, & Wiebel, 2015) and may tell us more about whether a situation has actually changed. Furthermore, judgements of trust and distrust are not likely to occur simultaneously; people tend to actively trust, actively distrust, or do neither (Saunders, Dietz & Thornhill, 2013). Thus, I believed that measuring instances of distrusting rather than trusting behaviours would be more pertinent in Study 3 and discuss the issue and my reasoning further in Chapter 8.

**Figure 1** displays my proposed process model, based on previous research (Bijlsma-Frankema et al., 2015; Dietz & den Hartog, 2006; Nienaber et al., 2015; Skinner et al., 2013). This model is primarily based on that of Dietz and den Hartog (2006), who adapted elements of Mayer and colleagues' (1995) model. I note that Dietz and den Hartog (2006) include inputs, the process, outputs, and a feedback loop from outputs back to inputs. Inputs are what I, and Dietz and den Hartog (2006: 564), consider antecedents to trust, such as pre-disposition to trust, quality of relationship and organisational, structural, or situational constraints. Although I do consider antecedents to trust later in this chapter, and include some measures of them in my studies, I do not formally include them in the model depicted in **Figure 1**, as they are not part of the process itself. Relatedly, it is confusing that Dietz and den Hartog (2006) include the action component as an output in their model, yet they state the following:

In much the most commonly cited conceptualisation, Mayer et al. (1995) separate trust from its associated behaviours. However, our conceptualisation reflects the distinction drawn by McEvily et al. (2003, p. 93) between trust's three necessary constituent parts: as "an expectation, a willingness to be vulnerable and a risk-taking act". (p. 560).

The previous quote suggests that the authors *do* include the action as part of the process, as opposed to simply being an output. Based on this, and the assertion of Skinner and colleagues (2013: 218) that "the act is *real* trust", I include the action as part of the process. Finally, the Dietz and den Hartog (2006) model includes a feedback loop, suggesting that the information will be fed back to inform beliefs based on experience. While I expect this to be the case, I do not include a feedback loop in my model. My research design does not enable me to empirically test such a loop given time constraints and concerns over the viability of collecting repeat survey data on two separate events. As such, the model depicted in **Figure 1** consists of the three stages of the trust process: belief, decision, and action. It does not formally include the inputs, nor does it contain a feedback loop, however I acknowledge that the processes I study in this thesis form part of a larger model, as per Dietz and den Hartog (2006).

In the following section, I discuss some of the contentious issues in trust research, starting with the distinction between cognitive and affective trust. I then review the literature on trust and distrust, before exploring some of the trait-based antecedents to trust. The chapter concludes with a return to the issue of measuring trust and a summary of the chapter as a whole.



**Figure 1. A process model of trust**

### **Cognitive and Affective Trust**

Here, I review cognitive and affective trust. I begin by defining the concepts, then review a number of studies, some of which suggest that affective and cognitive trust should be delineated, and some that suggest they should not. **Table 2.2** summarizes the papers reviewed in this section, and whether or not they make the case for delineating cognitive and affective trust. This may take the form of explicitly stating that the two are distinct constructs, or it may simply be inferred through the measures used. Indeed, all empirical papers in this review that delineate cognitive and affective trust use the McAllister (1995) measure, or an adaptation of it. Equally, the papers that do not delineate the two use items adapted from Mayer et al. (1995). This poses some methodological questions, which I discuss later in the chapter.

### **Defining Cognitive and Affective Trust**

Cognitive and affective trust are two forms of trust associated with competing theoretical explanations of how trust is developed. In their meta-analysis of research into trust in leadership, Dirks and Ferrin (2002) frame the two as character- and relationship-based perspectives. Cognitive trust is associated with the character-based perspective; it captures perspectives about the trustee's character that are likely to influence the trustor's vulnerability to him or her. Relationship-based trust,

unsurprisingly, consists of the relational aspects between leader and follower; derived from social exchange theory, it focuses on the exchange of socio-emotional benefits between parties (Whitener, Brodt, Korsgaard, & Werner, 1998; McAllister, 1995).

Cognitive trust refers to trust that is based on an evaluation by the trustor of the personal characteristics of the trustee, such as their ability, reliability, and integrity (Dirks & Ferrin, 2002). It hinges on a personal appraisal; whether or not the trustor believes the trustee has shown ability, reliability and integrity in the past. McAllister (1995) hypothesised that reliable role performance; a trustee's "track record" in his or her role, cultural-ethnic similarity; how similar people are in terms of race, age, gender and other cultural characteristics. Professional credentials such as education, professional accreditation, and membership of professional associations, should prove to be antecedents of cognitive trust. However, these hypotheses were not supported. Failure of the trustee to meet expectations regarding the aforementioned characteristics may provide a basis for the trustor to withhold trust (McAllister, 1995). Conversely, the most prominent conceptualisation of affective trust in the organizational literature refers to trust based on emotional attachment, usually between two parties, that results from the mutual exhibition of care and concern (Dirks & Ferrin, 2002; McAllister, 1995). McAllister's (1995) beliefs that citizenship behaviour -- i.e., choosing to demonstrate care and concern for another party that is not linked to one's role or own self-interest -- and frequency of interaction between trustor and trustee are antecedents to affective trust were supported.



**Table 2.2 - To Delineate Cognitive and Affective Trust or Not?**

Author(s)	Research Field	Delineate Cognitive and Affective Trust?		Measure
		Yes (Correlation of affective and cognitive trust)	No	
McAllister (1995)	Trust	X (.63)		McAllister
Mayer et al. (1995)	Trust		X	Mayer et al.
Johnson & Grayson (2005)	Trust	X (.80)		McAllister
Ng and Chua (2006)	Trust	X (.36)		McAllister
Colquitt et al. (2007)	Trust		X	Meta-analysis
Schoorman et al. (2007)	Trust		X	N/A
Tomlinson and Mayer (2009)	Trust		X	N/A
Colquitt et al. (2011)	Trust		X	Mayer et al.
Schaubroeck et al (2011)	Trust and Leadership	X (.58)		McAllister
Zhu et al. (2013)	Trust and Leadership	X (.57)		McAllister
Schaubroeck et al. (2013)	Trust and Leadership	X (Leader T1 correlations = .44, T2 = .26, T3 = .26, Peers T1 =.48, T2 = .64, T3 = .57		McAllister
Newman et al. (2014)	Trust and Leadership	X (.61)		McAllister
Miao et al. (2014)	Trust and Leadership	X (.64)		McAllister

### **What is the Relationship between Cognitive and Affective Trust?**

Some prior research indicates that cognitive trust provides a base for affective trust, and that the former is a positive predictor for the latter (McAllister, 1995). Further, some level of cognitive trust is required for affective trust to develop (Lewicki & Bunker, 1996; Lewis & Weigert, 1985; McAllister, 1995; Newman, Kiazad, Miao, & Cooper, 2013; Schaubroeck, Lam, & Peng, 2011; Schaubroeck, Peng, & Hannah, 2013). Lewis and Weigert state:

First, trust is based on a cognitive process which discriminates among persons and institutions that are trustworthy, distrusted and unknown. In this sense, we cognitively choose whom we will trust in which respects and under which circumstances, and we base the choice on what we take to be “good reasons”, constituting evidence of trustworthiness. (Lewis & Weigert, 1985: 970).

However, Ng and Chua (2006) found that there was a spill-over effect from affect-based trust to cognition-based trust that did not translate the other way; when participants were primed with relational-orientated information to induce affect-based trust, they were also more likely to perceive higher levels of cognitive trust in their team members. These results run counter to the pervading theory that a base of cognitive trust must exist before affective trust can form. However, the authors recruited participants from the Chinese context, whereas the proponents of affect-building on cognition-based trust conducted their research in Western contexts. The results of Ng and Chua’s (2006) study may support Chen, Chen, and Meindl’s (1998) assertion that cognition-based trust has greater significance in eliciting cooperation in individualistic cultures, whilst affect-based trust is more important in collectivist cultures. However, it is important to test this assertion by specifically investigating affect-based trust in individualistic cultures.

### **Are Cognitive and Affective Trust Distinct Constructs?**

**Evidence for cognitive and affective trust as distinct constructs.** In their empirical study of cognitive and affective trust in service relationships, Johnson and Grayson (2005: 500) demonstrated that “cognitive and affective dimensions of trust can be empirically distinguished and have both common and unique antecedents”. This finding is consistent with the assertion of McAllister (1995: 51) that “although cognition- and affect-based trust may be causally connected, each form of trust

functions in a unique manner and has a distinct pattern of association to antecedent and consequent variables”.

Zhu, Newman, Miao, and Hooke (2013) observed the mediating role of affective and cognitive trust on the relationship of followers’ perceptions of transformational leadership behaviours with job performance, organizational citizenship behaviours (OCBs) and affective organizational commitment. They found that transformational leadership led to higher levels of both cognitive and affective trust, but only affective trust (positively) mediated the effect of transformational leadership on follower job performance, affective organizational commitment and OCBs. Cognitive trust negatively mediated the relationship between transformational leadership and job performance, and had no mediating effect on either affective organizational commitment or OCBs. The authors posit that the negative relationship between transformational leadership, cognitive trust, and job performance outcomes may be due to a “free-riding” tendency engendered by followers’ overconfidence in or over-reliance on the competence of their leader. Their findings suggest that whilst affective trust translated transformational leadership behaviours into positive work performance outcomes, cognitive trust did not. Miao, Newman, and Huang (2014) also found that affective trust related to favourable behaviours and performance, yet cognitive trust did not. These findings indicate that cognitive and affective trust should be considered as different dimensions, rather than two points on one continuum. Indeed, in their social dilemma experiment, Ng and Chua (2006) also found support for the proposition that cognitive and affective trust are separate dimensions and that higher levels of cognitive trust amongst team members may lead to free-riding behaviour.

For studies that delineate cognitive and affective trust, **Table 2.2** displays the correlation(s) of the variables. In all but one study, effect sizes are large ( $>.50$ ). In the Ng and Chua (2006) study, the relationship was .36, indicating a moderate relationship. In a time-lagged study that measured both trust in leader and trust in peers from cognitive and affective bases, leader variable correlations (cognitive Time 1 and affective Time 1, cognitive Time 2 and affective Time 2 etc.) were moderate, ranging from .44 at Time 1 to .26 and Times 2 and 3. For trust in peers, relations were stronger: T1 = .48, T2 = .64, T3 = .57. Such strong correlations indicate that McAllister’s (1996) cognitive and affective trust constructs are related but distinct. However, I content that

there are problems with this measure, which I critique in further detail later in the chapter.

**Evidence for cognitive and affective trust as opposite poles of a continuum.**

On the other hand, Colquitt and colleagues' (2007) meta-analysis of prior literature showed that Mayer et al.'s (1995) dimensions of trustworthiness: ability, benevolence and integrity, have positive, unique relationships with trust and are interrelated. The authors suggested this may be because the ABI model taps into both affective and cognitive trust. The cognitive calculations of a person's skills and capabilities are encapsulated in the ability dimension, whereas mutual concern and social exchange form the benevolence facet of the model. This validation of the ABI model components may suggest that there is no need to explicitly delineate affective trust from cognitive trust, and that the two forms of trust co-exist within the overarching construct of trust as proposed by Mayer and colleagues (1995). In revisiting the ABI model 11 years after its conception, Schoorman et al. (2007) briefly discussed the role of affect and emotion on the model. The authors posited that while emotions may cause a temporal "irrationality" perceptions of another's ability, benevolence and integrity, perceptions are likely to return to a rational state in time. After a violation of trust, they believe that emotions are likely to dissipate over time but question the effect that it will have on the trustor's evaluation of the trustee and whether or not the emotion will ever truly return to a non-emotional evaluation. Alternatively, it may be that the trustor re-evaluates his or her perception of the trustee's ability, benevolence and integrity when intense emotions are experienced, and that even when a neutral or "rational" emotional state has been restored, the effect on the decision to trust remains. Schoorman et al. (2007) do state that effect of emotion on trust is an interesting topic and may yet add a new dimension to it.

In their conceptual paper, Tomlinson and Mayer (2009) discussed the role of emotion in situations where trust declines and needs to be repaired. They proposed that trust and trustworthiness are more likely to be repaired if emotions such as anger and fear are reduced prior to or concurrently with the trust repair interventions. However, they did not make a case for affective or cognitive trust to be delineated. This paper is discussed in further detail in Chapter 3.

Colquitt, LePine, Zapata, and Wild (2011) studied trust amongst firefighters in typical and high-reliability contexts. "Typical" contexts were everyday situations that

included tasks such as answering the telephone and completing administrative duties, and “high-reliability” contexts were dangerous, less common situations such as callouts to fires or road accidents. They found that trust in the context of typical tasks was related to both cognitive and affective sources, but cognitive sources were far more predictive of trust in high-reliability tasks. The authors used the ABI model, with the added dimension of identification. Ability and integrity were considered to be cognitive bases of trust, whilst benevolence and identification were affective bases. Colquitt et al., (2011) observed that identification-based trust has a strong relational quality, which suggests an affective base. Identification is described as: “that part of an individual’s self-concept that derives from his/ her membership in a social group, together with the value and emotional significance attached to that membership” (Tajfel, 1978 in Colquitt et al., 2011: 1001).

Interestingly, the Colquitt et al. (2011) study found that ability did not uniquely predict trust formation in either high-reliability or typical contexts. The authors opine that this might be because assessments of ability have less relevance in jobs with the kind of duality that firefighting has. They also acknowledge the task-specific nature of ability, as hypothesized by Mayer et al. (1995), and suggest results may have been different if they had made a distinction between high-reliability and typical tasks when referencing ability. Integrity had a particularly powerful effect in high-reliability task contexts, whereas benevolence and identification were more prevalent in trust formation in typical tasks. Integrity was still found to be significant, but to a lesser degree.

In sum, it appears that researchers increasingly acknowledge that trust can be considered both as cognitive and affective. However, whether there should be an explicit division of the two, as per McAllister’s measure (1995), or whether they should be considered as part of overarching construct, as per Mayer et al. (1995) is not clear. From a literature review of cognitive and affective trust, it does appear that in papers that do delineate the two dimensions of trust tend to use McAllister’s (1995) measure. A discussion of some of the methodological implications of this, and other matters, is forthcoming. However, firstly, I turn to another perspective of trust that considers trust as a central element but is quite different from the affective trust definition provided earlier.

### **An Emotional View of Trust**

Recently some scholars have attested that emotions should be considered as a central facet of the trust process. In their discussion of public trust in the sciences, Engdahl and Lidskog (2014) make a case for moving towards an emotional understanding of trust that appears to be quite different from the conceptualisation of affective trust offered above. They reject the notion of trust being mutual, suggesting instead that “mutual” trust is actually two separate instances of trust, both of which consist of separate, asymmetrical relationships. Furthermore, they posit that trust “is not the opposite of reflexivity or rationality, but rather an emotionally based strategy that bridges the gap between the present and the future by anticipating the result that trust, if successful, creates” (Engdahl & Lidskog, 2014: 711). In relation to this point, Barbalet (2011: 41) points out that “trust, as a modality of action requiring a commitment to act in the absence of evidence concerning its outcomes, involves both emotional apprehension and emotional engagement”. He then suggests that this aspect of trust can be characterised in James’ (1896/1956) account of “the alpine climber” in which a climber stuck on an icy precipice is faced with a “forced option” of either jumping or not jumping across a chasm. Feelings of confidence and hope, James states, are likely to result in the climber executing the jump, whereas fear and despondency are likely to result in a missed jump and almost certain death. Although James’ original passage related to faith and God, and the scenario is perhaps simplistic, the climber’s emotional commitment to a particular course of action leading to a singular outcome is applicable to trust in that it bridges the gap between the present and the future. It is, quite literally, a “leap of faith”, something that some trust scholars believe is a fundamental aspect of the trust process (Lewis & Weigert, 1985; Möllering, 2001; 2006).

Regarding trustworthiness, proponents of an emotional understanding of trust suggest that perceptions of a trustee’s trustworthiness can never be solely accountable for the process of trust-giving. The granting of trust relies not only on perceptions of others, but perhaps more importantly the trustor’s confidence in his own capacities to form judgements of others (Barbalet, 2011; Engdahl & Lidskog, 2014). These judgements are based on positive confident expectations that are likely to be background to the object of the trustworthiness they assess, in that they may not be particularly strong (or even explicitly recognisable) in the way that emotions are

characterised. Relatedly, perceptions of trustworthiness are often thought to be based on cognitive, rational decisions, however rationality itself may be considered akin to an emotional feeling. William James (1879: 317) discusses this idea in “The Sentiment of Rationality”, suggesting that we *feel* (emphasis added) rationality in a similar way to any other emotional state. He describes the recognition of rationality through the feeling of subjective “marks”, often characterised by a transition from a state of puzzlement to one of ease, peace and even “lively relief and pleasure”.

The papers cited in the previous paragraph come from the field of sociology. The proposition that emotion plays a central role in the trust process is one that has received scant attention in the organizational literature, but offers an interesting counterbalance to the cognitive underpinnings of the discipline. One author who does include emotion as a central facet to her work on organizational trust building is Michelle Williams (2001; 2007), whose work is discussed in the following paragraphs.

**Works considering affect in trust development.** In her article on group membership and its affectivity as a context for trust development, Williams (2001) suggests that affect is an important factor in both similar and dissimilar group membership. She contends that the link between group membership, its affective context, and interpersonal trust lies in category-driven processing. Category-driven processing involves reliance on previously held beliefs about a particular group, rather than incoming information about specific members of the group (Hilton & von Hippel, 1996 in Williams, 2001: 385). Hence, Williams (2001) posits that perceptions of trustworthiness will increase when there is an increase in positive category-based affect related to an outgroup category. Conversely, perceptions of trustworthiness will decrease when there is an increase in negative category-based affect related to an outgroup category. With regards to actual trust, Williams (2001: 387) asserts that this is first driven by motivation to trust, or “the desire to view another person as trustworthy enough to be relied on”, which can be influenced by emotions due to their association with the motivation to approach or avoid others. People desire affective attachments in order to belong (Baumeister & Leary, 1995), and Williams (2001) posits that such attachment is less likely to develop with outgroup members than in-group members, resulting in a lack of motivation to trust them. Finally, cooperative behaviour is likely to be influenced by positive affect.

Williams (2001: 387) asserts that motivation to trust is based on the consideration that another party is “trustworthy enough” to be relied upon. Here, we see evidence of the “trustworthiness paradigm” (Möllering, 2013a). As stated previously, I contend that the motivation to trust does not solely arise from perceptions of trustworthiness (Dietz, 2011; Dietz & den Hartog, 2006; Möllering, 2013a).

In the second of her *Academy of Management Review* publications, Williams (2007) develops a threat regulation model of trust and collaboration across boundaries. Analysis concerns the actions boundary spanners may take to reduce potential threats to their counterparts in order to increase positive emotional responses and demonstrate trustworthiness. Lazarus and Folkman (1984, in Williams, 2007: 597) define threats as “harms and losses that have not yet taken place but are anticipated”. They are associated with negative emotional responses (Lazarus, 1991), and may inhibit trust development due to their potential interruption of goal attainment (Williams, 2007). Thus, particularly in organizational contexts in which boundary-spanning cooperation is required, threat regulation processes may be necessary. Williams (2007: 601) asserts that the threat regulation process consists of three stages: *perspective taking*, *threat-reducing behaviour*, and *reflection*.

Perspective taking involves imagining another’s thoughts, motives, and feelings from that person’s point of view (Davis, 1996 in Williams, 2007: 601), and can be undertaken to anticipate how events might impact upon the other’s well-being and goals. It is an essential part of the threat regulation process because it equips the boundary spanner with the necessary understanding to partake in responsive action. Furthermore, it demonstrates trustworthiness to the other party and may provoke more cooperative action tendencies in response.

The next step of the process, threat-reducing behaviours, involves engaging in responsive actions, as mentioned in the previous paragraph. The primary strategies of threat-reducing behaviour take the form of emotion regulation. Emotion regulation refers to “the process by which we influence emotions we have, when we have them, and how we experience and express them” (Gross, 2002: 282). Williams (2007) considers interpersonal emotion management strategies (as opposed to the intrapersonal strategies generally considered in previous research, e.g. Gross, 1998).

Williams (2007) asserts that successful threat regulation will increase affective attachment to, perceived trustworthiness of, trust in, and cooperation with the



boundary spanner. In particular, engaging in threat regulation successfully through threat-reducing behaviour will increase positive emotion, potentially increasing the feeling that the other is trustworthy, and in turn increasing trust.

As with that in her 2001 paper, Williams' (2007) model relates to trust development in a very particular context, specifically, the role of organizational boundary spanners. If, and how, this model would work in other contexts, both organizationally and in terms of a context that would require trust repair, is not known. Indeed, if we consider a scenario that requires trust repair, it is likely that threats are either (a) likely to occur as a result of a trust violation and require regulation, or (b) have already become actual harms and losses, by which time threat regulation is too late. In situation (a), the model may still be applicable, but may take on a different function, moving from developing trust to rebuilding it. In situation (b), the model would not appear to be applicable. Moreover, both models devised by Williams (2001; 2007) have, to my knowledge, not been empirically tested. Williams' (2001; 2007) assertions do, however, suggest that emotions may play an important role in trust processes.

In sum, this section has discussed work that considers emotion as central to trust development processes. From a sociological perspective, the research of Barbalet (2011) and Engdahl and Lidskog (2014) presents a conceptualisation that suggests that trust can never solely emanate from perceptions of trustworthiness. From an organizational outlook, Williams (2001; 2007) also promotes the idea that emotions are important in trust development, however a number of her assertions are based on increasing trustworthiness in order to develop trust. While I do not discount the importance of trustworthiness in the trust process, I suggest that there are other important elements to also consider, and that emotion will influence perceptions of trustworthiness and trust in different ways.

The emotional view of trust brings into question the conceptualisation of affective trust presented earlier, which proposes that repeated, mutual displays of care and concern over time lead to a type of trust that is affective in nature. This suggests that numerous demonstrations of the benevolence facet of trustworthiness are required, and there must always be a cognitive foundation on which affective trust can be fostered. Proponents of an emotional basis of trust would reject this view as it does not consider the emotion a trustor feels when making the decision to trust (even if it seems

like a rational decision). Whether this decision is made for the first time or as part of an ongoing trust process, there is always going to be some affective component to trusting, whereas the conceptualisation of affective trust discussed earlier appears to relate heavily to identifying with another or liking. Affective trust, as conceptualised in the organizational literature, is almost exclusively other-focused and does not place much emphasis on the self and the sense of feeling inherent in the act of trusting. Neither does it take into account any embodied aspects of trust (Williams & Bargh, 2009). This, then, also gives rise to methodological quandaries, of which a discussion follows.

### **Methodological Issues**

Methodological issues, mainly relating to the measurement of trust, are still pervasive in the literature. McEvily and Tortoriello (2011) reviewed 171 empirical papers measuring trust in organizational contexts between 1962 and 2010. Several of these studies included more than one measure of trust, and the total number of measures included in the review was 207. This figure demonstrates the fragmented nature of the literature. A total of 129 unique measures were found, and of those, 77 were newly developed rather than replications of previous measures. Of the 52 measures that had been replicated, 30 had been replicated just once before (that is, they appeared in only one other study). Therefore, 22 measures in the review had been replicated more than once, and taken together those 22 measures appeared in 89 of the 171 papers that were reviewed by McEvily and Tortoriello (2011). The authors identified 130 instances where 1 of the 52 existing replicated measures had been used, but only 18 cases where measures had been replicated in a verbatim or essentially verbatim manner.

The two most replicated measures in McEvily and Tortoriello's (2011) review were those developed by McAllister (1995) and by Mayer and Davis (1999). McAllister's measure was replicated 12 times, and Mayer and Davis' measure was replicated 11 times. As mentioned previously, McAllister's measure only relates to trustworthiness beliefs, not intention to act nor trusting behaviour. Furthermore, Dietz and den Hartog (2006) state that two of the McAllister's (1995) items do not specifically relate to trust, but instead to loss/regret (i.e., "We would both feel a sense of loss if one of us was transferred and could no longer work together") and to

emotional sentiment (i.e., “I have to say that we have both made considerable emotional investment in our working relationship”). Finally, the affective items in McAllister’s measure tend to relate entirely to benevolence. The fact that “integrity” items are included in the cognitive section of the measure has been raised as a point of contention, suggesting that one does not assess integrity on any kind of emotional level (Dietz & den Hartog, 2006). Becker (1998: 159), taking an objectivist perspective, claims: “integrity requires that reason – not emotion – be a person’s primary guide”. On the other hand, one Webster’s dictionary definition of integrity is: “firm adherence to a code of especially *moral* or artistic values” (emphasis added). Given the link between morality and emotion (Rozin, Lowery, Imada and Haidt, 1999), I contend that, from the prospective of a trustor evaluating a trustee, there would be an affective element to the judgement of integrity.

McAllister’s (1995) measure also explicitly contains the words “trust” and “trustworthiness”. Direct reference to trust in measurement instruments is not recommended because it may distort participants’ responses (Cummings & Bromiley, 1996; Dietz & den Hartog, 2006) and poses an “emotive challenge” (Blois, 1999: 201). The measure has been shown to have acceptable psychometric properties and has also had information provided regarding the item generation process and construct validity. Few other measures in McEvily and Tortoriello’s (2011) review have such information provided by their original authors. However, the affect-based items in McAllister’s measure could be argued to be indicative of liking or identification rather than trust, an assertion that can also be levelled at the conceptualisation of affective trust itself. They are based entirely on positive expectations, forgoing willingness to be vulnerable (Dietz & den Hartog, 2006).

The Mayer and Davis (1999) OBI measure covers the ABI facets of trustworthiness, with six items related to benevolence, five to competence, and five to integrity. One item relates to predictability, and four signal an intention to act (trust). There are also eight items concerning propensity to trust. In this respect, the measure covers both the belief and decision stage of the trust process. In Mayer and Davis’s (1999) original suite of studies, conducted over two waves, the trustworthiness items had good reliabilities, with Cronbach’s alphas ranging from .82-.89. However, the propensity and trust items did not prove to be so reliable. For propensity to trust, the wave 1 alpha was .55, and that of wave 2 was .66. Alphas for the trust scale were .59

and .60, respectively. Mayer and Gavin (2005) replicated the trustworthiness and trust items of the OBI ad verbatim, and report reliabilities of .85 to .92 for trustworthiness and .72 to .81 for trust, providing some evidence of acceptable reliability for the trust measure. McEvily and Tortoriello (2011) state that, in contrast to the McAllister (1995) measure, the trust content of the OBI relates to willingness to be vulnerable without considering positive expectations. Positive expectations are covered in the trustworthiness items, however. When considering the process view of trust proposed by Dietz and den Hartog (2006), this may not be a problem. They state that the belief stage of the process concerns positive expectations, and the decision stage involves willingness to be vulnerable. Trusting actions or behaviours demonstrate actual vulnerability. In this respect, if at least the first two stages of the trust process are measured, then both the positive expectation and willingness to be vulnerable components of trust are met.

In sum, it seems that there are some issues relating to the two most commonly cited measures in the organizational trust literature. McAllister's (1995) measure only relates to beliefs, it explicitly included the words "trust" and "trustworthiness", the decision of the author to include integrity-related items as part of the cognitive basis for trust is somewhat perplexing, and it only measures positive expectations. With regards to Mayer and Davis' (1999) OBI measure, there are questions over the reliability of the trust propensity and trust items. Furthermore, as stated previously, neither measure the action stage of the trust process.

Next, a discussion of trust and distrust is presented. Distrust could be a particularly important concept given that this thesis is primarily concerned with trust violation and repair.

### **Trust and Distrust**

In recent years, scholars have started to consider the construct of distrust. Prior research into the negative effects of distrust in organizational and interpersonal settings is plentiful. Indeed, distrust has been related to a lack of cooperation, lack of willingness to disclose information or commit to a relationship (Cho, 2006), avoidance of interaction (Bies & Tripp, 1996), stigmatization (Sitkin & Roth, 1993), reduction in intention to buy products (Ou & Sia, 2010), and intergroup conflict (Tomlinson & Lewicki, 2006).

Although the consequences of distrust are well documented, a consensus as to what its primary characteristics are and whether it should be considered as a distinct construct to trust or at the opposite pole to it on a continuum is lacking. However, regarding the first point, two distinct elements of the characterization of distrust have generally been accepted in the literature (Bijlsma-Frankema et al., 2015). First, distrust involves *pervasive negative perceptions and expectations of the other(s)* (Bijlsma-Frankema et al., 2015; Cho, 2006; Dimoka, 2010; Lewicki, McAllister & Bies, 1998). Secondly, distrust develops in a *self-amplifying cycle*, a process in which *pervasiveness and intensification of negative perceptions and behaviours are central elements* (Bijlsma-Frankema et al., 2015). Regarding pervasiveness, distrust appears not to be domain specific, unlike trust (Mayer et al., 1995). Rather distrust in one domain of a relationship spreads to other domains. Further, the characterization of distrust as a self-amplifying cycle indicates that a process-view of distrust must be considered. In relation to the centrality of behaviour in the process of distrust, Bijlsma-Frankema and colleagues (2015: 2) state that “the role of behavior is paramount because distrust is conveyed through behaviors (as distinct from perceptions)”.

There have been two primary schools of thought relating to distrust. The first is that distrust lies on the low end of a continuum of trust, and that the concepts should not be delineated (Luhmann, 1979; Mayer et al., 1995; Schoorman et al, 2007). Conversely, other scholars argue that trust and distrust are separate but linked dimensions (Bijlsma-Frankema et al., 2015; Cho, 2006; Dimoka, 2010; Lewicki et al., 1998; Ou & Sia, 2010; Sitkin & Roth, 1993). A mounting body of empirical evidence supports the idea that distrust and trust should be delineated in the form of early measurement work (Clark & Payne, 1997) and more recent concept discrimination testing (Cho, 2006; Ou & Sia, 2010). In a neuroimaging study, Dimoka (2010) showed that trust and distrust activated different areas of the brain; trust stimulated areas that provoked *intentional* engagement in a relationship, whereas distrust stimulated areas that engaged *automatic* responses that would seek to prevent the occurrence of a harmful event. These findings are consistent with prior literature, which states that trust develops slowly over time through the cumulative gathering of evidence based on careful deliberation, whilst distrust is quick and episodic, based on emotional cues.

I believe that trust and distrust *are* separate constructs, rather than existing on opposite ends of the same continuum. Recent empirical investigations support this perspective, and Dimoka's (2010) research provides compelling evidence of the automaticity of distrust, indicating the importance of emotions in the construct. As stated earlier in this chapter, I consider distrusting behaviours in Study 3 of my research programme rather than trusting behaviours. I take this decision for a number of reasons. Firstly, distrust is likely to be particularly relevant in instances of trust violation. In situations that warrant it, people tend to actively trust or actively distrust, rather than do both simultaneously (Saunders et al., 2013), so in the context of violation, distrust is likely to be dominant. Moreover, behaviours related to distrust are likely to indicate that something about the relationship between a customer and an organization has changed for the worse. In the aftermath of a trust violation, if such negative behaviours from the violated party are not manifested, I argue that the status of the relationship has not changed substantively enough for the transgressor to need to repair it. Hence, understanding whether such distrusting behaviours have occurred may be more interesting and salient in understanding the nature and status of a relationship after a violation than the consideration of trusting behaviours.

The following section considers the antecedents of trust, focusing particularly on individual differences.

### **Antecedents of Trust: Individual Differences**

Research into the antecedents of trust has tended to focus on situational, institutional or organizational constraints (Dietz & den Hartog, 2006), a number of factors relating primarily to the trustee, such as their motives, traits, and previous behaviours, and characteristics of the relationship that the trustor has with the trustee. Of the influence of the trustor's personal characteristics, little research has been conducted. Indeed, Searle (2013: 15) stated that "individual difference is an under-researched factor underlying trust perceptions", and called for further study of individual differences and their relationships with trust. Of the individual differences that have been studied in this area, propensity to trust appears most frequently in the literature. I now present an overview of what propensity to trust entails and its relationship with trust, before considering some of the other individual differences that have been studied in the trust literature. It is important to the current study to consider

these individual differences for three reasons. First, some, such as propensity to trust, should be included as control variables to eliminate alternative explanations. Second, some emotion-related individual difference variables may influence if and how emotion influences social judgements (Schwarz, 2012), so they should be included in studies that explore the effects of emotion on phenomena such as trust. Finally, the influence of individual differences as antecedents of trust provide further evidence of the importance of moving beyond the perceived trustworthiness paradigm (Möllering, 2013a).

### **Propensity to Trust**

There are times when the decision to trust must be made before a sufficient amount of information regarding an actor's trustworthiness is available. Kee and Knox (1970) argued that trust is not just based on prior experience, but also on dispositional factors. Rotter (1967) was one of the first scholars to view trust as a form of personality, defining interpersonal trust as a *generalised* expectancy regarding the conduct of others. Other scholars have referred to this personality-based trust as *dispositional trust* (Kramer, 1999) and *trust propensity* (Mayer et al., 1995).

McKnight et al. (1998) argued that propensity to trust has become more important as new working relationships are formed more and more frequently through globalisation, organizational restructuring and the emergence of cross-functional workgroups. Trust requires a leap beyond the expectations that existing objective information on characteristics of trustworthiness can provide (Lewis & Weigert, 1985; Möllering, 2006; 2013a). Colquitt et al. (2007) showed in their meta-analysis of the antecedents and consequences of trust that trust propensity may drive that leap. They demonstrated that trust propensity was positively related to trust, both using zero-order correlations (corrected meta-analytic correlation,  $rc = .27$ ,  $r = .20$ ), and when trustworthiness facets (ability  $rc = .15$ , benevolence  $rc = .20$  and integrity  $rc = .29$ ) were included via meta-analytic structural equation modelling (SEM). In an earlier meta-analysis, Dirks and Ferrin (2002) also found that trust propensity had a positive relationship with trust ( $r = .17$ ). Although the effects of trust propensity were relatively small in these meta-analyses, length of relationship was not measured in concurrence with trust propensity. Dirks and Ferrin (2002) did measure length of relationship as a

direct antecedent of trust, and found a nonsignificant relationship, but did not include it as part of a path with trust propensity.

Considering length of relationship, Johnson-George and Swap (1982) found that pre-disposition to trust is particularly influential in the early stages of a relationship and diminishes in importance as the relationship develops and more direct evidence of the other party is gathered. Furthermore, several scholars posited that the *strength* of the situation may be an important boundary condition of the relationship between trust propensity and trust (Dirks & Ferrin, 2002, Mayer et al., 1995, Rotter, 1971). Mischel (1971) asserted that situations could be characterised as either *strong* or *weak*. Strong situations have cues that generally lead people to behave in a uniform manner. For example, one would expect people to behave in a sombre manner at a funeral, or attend a job interview in appropriate attire. Conversely, weak situations lack salient cues regarding behavioural expectations. Rotter (1971) argued that disposition to trust would predict trust only when the information available was ambiguous, and Mayer et al. (1995) suggested that trust propensity would only be significant when cues regarding another's trustworthiness were unavailable. These situations could be categorised as weak. Gill, Boies, Finegan and McNally (2005) tested this assertion empirically, and reported that the relationship between trust propensity and intention to trust was only significant in a weak situation, that is when participants in their study were given ambiguous information regarding the trustworthiness of a hypothetical colleague in an experimental setting as opposed to high or low trustworthiness information. It is evident, then, that trust propensity has a complex relationship with trustworthiness and intention to trust, and may be more important in some situations than others. Particularly at the start of a relationship, and when situational cues are ambiguous.

It is evident that much research has been conducted into trust propensity. It should be included in studies of trust and trust repair even if its influence may wane in strong situations, or as the trust process develops. The following sections contain overviews of studies that explore other individual characteristics and their influence on trust, beginning with regulatory focus.



### **Trust and Regulatory Focus**

Regulatory focus theory posits that people either focus more attention on the *promotion* of positive outcomes, or on the *prevention* of negative outcomes, in pursuit of goal attainment (Higgins, 1997). Crowe and Higgins (1997: 117) stated: “*a promotion focus is concerned with advancement, growth, and accomplishment, whereas a prevention focus is concerned with security, safety and responsibility*”. Recently, research has been conducted into the relationships between regulatory focus and trust. Wirtz and Lwin (2009) studied the role of regulatory focus theory effects on trust and privacy concerns, and Keller, Mayo, Greifeneder and Pffattheicher (2015) explored the relations between regulatory focus and generalised trust. Both studies found support for their primary hypotheses, with Wirtz and Lwin (2009) showing that trust mediated the relationship between fairness perceptions and promotion-oriented behaviours, and Keller et al. (2015: 3) finding that prevention-orientation related to *generalised trust*, the trusting of unknown others and people in general. Generalised trust was conceptualised as a global belief that people in general are likely to be reliable, sincere, truthful and benevolent. In this respect, it is similar to Rotter’s (1967; 1971) conceptualisation of trust as a generalised expectancy regarding the conduct of others and other personality-based conceptualisations that followed (e.g. dispositional trust and trust propensity). Keller and colleagues (2015) showed that prevention-orientation, but not promotion-orientation influenced generalised trust and the likelihood to express trust. Their results suggested that people high in prevention-focus were less likely to score highly on a generalised trust self-report measure, and were less likely to express trust in a trust game. In this respect, regulatory focus appeared to be influential in predicting both propensity to trust and trust itself.

### **Biological Factors, Personality, and Attitudes**

As stated earlier in this section, individual characteristics of the trustor involved in the trust process, have not received a great deal of attention. However, there are a few exceptions.

**Personality and attitudes.** In the field of economics, Ben-Ner and Halldorsson (2010) included a number of individual difference variables in their paper on the antecedents and measurement of trustworthiness and trust. These were categorised into two factors. The first was those determined at birth and through early

childhood experiences, such as gender, age, ethnicity, birth order, personality and general mental ability. The second was comprised of views, attitudes, social preferences, values and beliefs. These included belief in God, optimism, pessimism, and altruism. Trust was measured behaviourally via amount sent to another in a trust game, and through self-report survey measures of generalised trust, trusting interactions (whether someone tends to be cautious or trusting in their interactions with other people) and trusting evidence (how much the trustor needs to know about the trustee before being willing to trust them). Trustworthiness was measured behaviourally via proportion of money sent back in a trust game and through self-report survey measures of Machiavellianism. In this study, Machiavellianism was viewed as a potential measure of trustworthiness rather than a personality measure.

Results suggested that the behavioural measure of trust, amount sent in a trust game, was strongly related to unconditional kindness, and women tended to send less than men. Of the personality measures, extraversion had a significant positive relationship with amount sent, and conscientiousness had a significant negative relationship with it. The other personality measures did not have any significant relations with the behavioural trust measure. Taken as a whole, these relationships may suggest that part of the motivation to send money related to investment or gambling reasons.

Regarding the trust surveys, optimism was the main determinate across the different measures, with the view that others are not cheating also proving to be important in relation to generalised trust. Personality measures also appeared to have more of a bearing on the survey measures of trust than the behavioural measure, with agreeableness and extraversion having positive relationships and narcissism and conscientiousness having negative relationships with all survey measures.

In terms of what the outcome variables measure, Ben-Ner and Halldorsson (2010: 77) suggested that the behavioural component, amount of money sent, represents “both less and more than trusting” in that it probably relates both to altruism and kindness to others, and to trusting in the economic sense of willingness to risk investment with the expectation of a return. The survey measures appear to reflect trust in more general situations, and the authors note that the measures relate to each other and mildly overlap, but that they measure different things. Results relating to trustworthiness suggest that the behavioural measure, proportion of money sent back,

relates to obligation to reward the trustor. This interpretation was supported by the positive relationship between agreeableness and proportion sent back. There was no relationship between universal kindness, reciprocation or amount sent in the first place to the amount sent back, so altruism or kindness can be eliminated as possible explanatory variables in this context. In this respect, it appears that the behavioural measure is at least a reasonable indicator of trustworthiness, at least in respect to the facet of trustworthiness that reflects one's willingness not to take advantage of the vulnerability of another in the context of financial risk. Of the survey measures, although Machiavellianism appeared to relate to some facets of trustworthiness (or lack of trustworthiness), when birth and childhood factors were controlled, the relationship disappeared. This infers that Machiavellianism does not make for a suitable survey measure of trustworthiness.

One issue with the Ben-Ner and Halldorsson (2010) study, and many others that take a purely behavioural approach, is that "trust" is measured financially, based on how much money the trustor is willing to send to the trustee in an artificial game. The authors did also use survey measures, but these measures concentrated on generalised trust, relating more to trust propensity. Moreover, all three of the survey measures directly use the word "trust". As discussed earlier in this chapter in the section relating to methodological issues, this is not good practice. In addition, these measures seem disparate, as the behavioural measure considers dyadic trust, yet the survey measures are concerned with generalised trust in unknown others. Finally, trust is multifaceted, and measuring it in purely financial terms is not sufficient to develop a well-rounded understanding of the concept. In this respect, the study provides some insight into some of the personal characteristics that relate to behavioural and survey measures of trust, such as extraversion being positive related to both, and conscientiousness having negative relations with both. However, given that the measures relate to financial outcomes and generalised trust, we do not know how these traits may interact with other facets of trusting behaviour, such as willingness to disclose sensitive information, willingness to rely or depend on another, or willingness to adopt to a service or product.

**Biological factors.** Somewhat more research has been conducted into the relationship between biological processes and trust than work relating to personality and trust. For instance, several studies have demonstrated that oxytocin (Baumgartner,

Heinrichs, Vonlanthen, Fischbacher and Ehers, 2008; Keri & Kiss, 2011; Kosfeld, Heinrichs, Zak, Fischbacher & Fehr, 2005), physical warmth (Williams & Bargh, 2008) and heritability (Oskarsson, Dawes, Johannesson & Magnusson, 2012) all shape trust in human interactions. These studies indicate that various factors other than those traditionally considered by organizational scholars influence the trust process.

In sum, this section illustrates that a number of personal characteristics may influence the trust process, yet they have largely been ignored in the organizational trust literature. However, my review indicates that such characteristics may be influential in the study of trust. Hence, relevant individual differences measures should be considered to constrain the possibility of effects being caused by exogenous influences.

### Chapter Summary

This aim of this chapter was to provide an overview of the trust literature, particularly from an organizational perspective. Definitions and concepts were explored, as well as antecedents to trust. My stance on some of the key issues relating to trust are as follows. First, I define trust as a process. The trust-as-process perspective allows us to consider both psychological and behavioural conceptualisations of trust and explore it as a multidimensional construct. However, the way in which trust tends to be measured has meant that the study of such a process perspective is difficult. Most measures of trust only consider the belief component of the trust process, relating to perceptions of trustworthiness. This is problematic, as trustworthiness does not equate to trust, and just because A perceives B to be trustworthy, it does not mean that A will actually *trust* B. In this respect, both the decision, one's willingness to be vulnerable, and the manifestation of trust through action, should be measured.

Second, the literature appears to be converging on the view that there are both cognitive and affective components to trust. However, whether these elements should be explicitly separated or considered as part of one overarching construct is still a matter of debate. I have concerns around delineation, primarily relating to measurement. All of the studies in my review that do delineate affective and cognitive trust use McAllister's (1995) measure. I believe this to be problematic for a number of reasons. Firstly, this measure only considers beliefs, or perceptions of trustworthiness. As discussed previously, this is not sufficient for a process perspective of trust.

Secondly, and because the McAllister (1995) measure only relates to considerations of trustworthiness, it is particularly other-focused. The measure does not consider the emotionality of the trustor involved in the act of trusting, something that is central to the proponents of an emotional view of trust, and one that I support. In this respect, although trust involves an emotional hue, I do not think it should be separated into cognitive and affective bases. Rather, trust should be considered as a singular construct with both cognitive and affective elements, as per Mayer and colleagues' (1995) ABI model.

Third, trust and distrust are distinct but related constructs. The measurement of distrust may be particularly relevant in scenarios where trust has been violated, and neurological research indicates that distrust is based on emotional cues (Dimoka, 2010).

Finally, research into the role of individual difference characteristics in the trust process is sparse, particularly in the organizational context. Research does suggest that personality factors may influence how people trust, as may a number of physiological processes, yet these avenues remain underexplored.

### Chapter 3: Trust Repair

This chapter reviews the extant trust repair literature. It begins by defining and discussing the importance of trust repair, then focuses primarily on the extent to which affect has been explored as an important explanatory variable in trust repair studies, and on which elements of the trust process have been measured. Research gaps appear in these areas, and I provide details regarding how my current study contributes to the trust repair literature by examining them.

#### What is Trust Repair and Why is it Important?

At the start of a relationship, trust levels are usually high (Robinson, 1996); people tend to view others as trustworthy if they do not have evidence to suggest otherwise (McKnight et al., 1998). However, when an organization acts in a manner that undermines the trust of its employees, customers, or other stakeholders, trust may become damaged, and thus may need to be repaired.

There are various formal definitions of trust repair. Kim et al. (2004: 105) define trust repair efforts as “activities directed at making a trustor’s trusting beliefs [i.e., beliefs about another’s integrity or competence] and trusting intentions more positive after a transgression is perceived to have occurred”. Tomlinson and Mayer (2009: 87) define trust repair as “a partial or complete restoration of the willingness to be vulnerable to the other party following a decline in that willingness”. Trust repair may be considered a specific form of relationship repair. In their review of relationship repair both within and between organizations, Dirks et al. (2009: 69) propose that relationship repair happens: “when a transgression causes the positive state(s) that constitute(s) the relationship to disappear and/or negative states to arise, as perceived by one or both parties, and activities by one or both parties substantively return the relationship to a positive state”. I contend that “relationship” can be replaced with “trust” in this instance, as did Kramer and Lewicki (2010) in their review of organizational trust and its repair. Specific trust repair tactics may be either non-substantive (i.e., apologies, denials, explanations and promises) or substantive (i.e., offering penance and self-regulation), as will be expanded on later in this chapter.

Trust repair is important because a loss of trust can lead to unfavourable outcomes for organizations. Employees may be less inclined to demonstrate trusting behaviour or to perform the trust-informed actions that are required for efficient

organizational operation (Dirks & Ferrin, 2002). Indeed, they may engage in obstructive or rebellious behaviour (Bies & Tripp, 1996) or may withdraw from the organization entirely (Robinson, 1996). Wider stakeholder groups also can react negatively when they perceive organizations to have failed. Transaction problems and negative publicity caused by product malfunctions can cause consumers to lose trust in organizations and withdraw support in terms of intention to purchase in the future (Lin, Chen, Chiu & Lee, 2011; Xie & Peng, 2009). Regulators take punitive action against malfeasant companies (Gillespie, Dietz & Lockey, 2014), and the societal impact of systemic organizational failure can be grave. Such was the case with the Global Financial Crisis (GFC) of 2008. In their compelling analysis of the GFC, Gillespie and Hurley (2013) demonstrate systemic failure at multiple levels, from financial institutions to governmental and regulatory bodies, all of which played a role in a crisis that affected millions of people worldwide.

In sum, organizational trust violations and failures can have profound negative outcomes at both micro and macro levels. However, evidence suggests that broken trust sometimes *can* be repaired, and a review of the trust repair literature follows.

### **Review of Trust Repair Literature**

My review of the trust repair literature begins with an overview of the important theoretical bases underlying theories of trust repair, then follows with a conceptual analysis of the body of literature on trust repair. In particular, several themes that also imply research opportunities emerge, including an overwhelming tendency of scholars to concentrate solely on the cognitive bases of the trust repair process, a prevalence of experiments over fieldwork, and a lack of empirical research at either the group or organization levels.

Another theme in this literature is the need for increased empirical investigation into the role of affect in the trust repair process (Chen, et al., 2011; Fulmer & Gelfand, 2012; Gillespie et al., 2014; Kramer & Lewicki, 2010; Tomlinson & Mayer, 2009). A review of articles that do consider affect to be central to trust repair follows, but my review begins with a discussion of the three main theoretical bases for understanding trust repair, and a general overview of the literature.

**Theoretical bases.** Three theoretical bases frequently underpin trust repair theory: the attributional process, the social equilibrium process, and the structural

process (c.f. Dirks et al., 2009). These three bases form an integral part of my review of the literature and are areas in which potential gaps in extant literature exist, thus are described in more detail in the following sections.

*Attribution Theory.* Derived from Heider's (1958) work, attribution theory focuses on how people make sense of the world around them via a cognitive process, and then use the resulting information to arrive at causal explanations of events. Trust repair researchers (e.g., Kim et al., 2004; 2006; Tomlinson & Mayer, 2009) typically build on Weiner's (1985) theory of attribution. Weiner (1985) suggests that an individual will experience a general emotion of pleasure or displeasure following the completion of a task, depending upon whether it was successful or a failure. If the outcome is unexpected, he or she would seek out the cause of it. The perceived cause is known as a causal ascription. Once a causal ascription has been identified, the individual evaluates the cause along three primary, continuous attribution dimensions consisting of: (a) *locus of causality*, whether a cause was generated internally or externally, and hence where blame for the outcome lies; (b) *controllability*, the degree of volitional control an individual has over an outcome; and (c) *stability*, the extent to which the cause of an outcome is deemed to fluctuate or remain the same, indicating what one can expect in the future under similar circumstances.

Although attribution theory may be useful for understanding the cognitive intra-person components of trust repair, it is not well-suited to explain the interpersonal aspects of a relationship that is damaged following a transgression (Dirks et al., 2009). Equally, at the organization-level, the attributions as to who or what is responsible for trust violations may vary, be contested, and be shaped by external influences. Thus, not all stakeholders are likely to make sense of a trust violation in the same way (Bachmann, Gillespie & Priem, 2015).

*Social Equilibrium.* Based on the work of Goffman (1967), Ren and Gray (2009) suggest that trust transgressions call into question the relative standings of the parties involved and cause disequilibrium in the relationship and social context, with the assumption that parties desire to have equilibrium in norms and social relationships. Re-establishing equilibrium can be achieved by restoring the relative standings of the parties and reaffirming the norms that govern them through various social rituals. Examples include apologies, penance and punishment. Ren and Gray (2009) indicate that the social equilibrium approach is particularly useful for



decreasing negative affect and restoring positive exchange. However, an issue with this approach is that it is bound by context and thus it may be difficult for heterogeneous multinational organizations to repair trust through this mechanism (Bachmann et al., 2015). A related point is that this underpinning cannot, by its relational, contextually bound nature, consider the environmental mechanisms, structures and controls in which relationships occur (Dirks et al., 2009). This brings us to the structural approach to trust repair.

*Structural.* Whereas the attributional process perspective focuses on trust repair via the cognitions of the violated party and the social equilibrium process focuses on the social, interpersonal facets of a relationship, the structural process dictates that the contextual factors involved in a transgression must be changed to discourage future transgressions and encourage positive exchange. Several of the concepts of this approach, from a trust repair standpoint, were developed by Sitkin and Roth (1993). These authors termed such structural approaches as “legalistic remedies”, which include monitoring, regulation and imposing controls and sanctions to increase the reliability of future behaviour. Gillespie and Dietz (2009) refer to such practices as distrust regulation mechanisms. The structural approach constrains the possibility of a party to commit a trust violation, hence, the focus lies more in restoring a positive exchange rather than repairing trust or reducing negative affect. And, as with the attribution and social equilibrium approaches, solely considering structural mechanisms as a means to repair trust has its limitations. Firstly, this approach creates a paradox. Although for some employees, structural controls may promote trust (Weibel, den Hartog, Gillespie, Searle & Skinner, 2016), overly rigid structural mechanisms might also constrain desirable organizational practices such as innovation and creativity. Moreover, while a restructuring of organizational processes may increase external stakeholder trust, it may negatively affect internal stakeholders by making it more difficult for them to do their jobs efficiently (Eberl, Geiger & Abländer, 2015).

### **General Overview and Discussion of the Trust Repair Literature**

To conduct this review, I gathered articles through a Web of Science search containing the term “trust repair”, then discarded articles that were obviously unrelated (such as those related to trust(s) in the legal sense). Summary tables of the trust repair conceptual, experimental, and field studies are displayed in **Appendices A, B, and C**, respectively. The salient aspects of these tables are summarised in the following paragraphs, proceeding with a brief discussion of some of the pertinent issues relating to extant conceptual and empirical articles.

**Conceptual papers.** It is evident that conceptual trust repair papers at the organizational level, and with organizational referents, are heavily cognitive. For example, Gillespie and Dietz (2009) and Pfarrer et al. (2008) both propose four-stage systemic models that, although conceptually sound, are very rational and do not appear to take exogenous factors such as emotional reactions into account. The idea that the aftermath of tempestuous organizational crises can be remedied by neatly and rationally passing through four stages seems overly simplistic. In a case study analysis which uses the Gillespie and Dietz (2009) and Pfarrer et al. (2008) models as frameworks, Gillespie et al. (2014) suggest that more research should be conducted in how emotion management may influence the trust repair process.

**Empirical papers.** Of the empirical papers reviewed, 18 (58%) were experiments and 13 (42%) were field studies. Experimental studies have the benefit of allowing researchers to control extraneous conditions or variables, examine one or more independent variables in a controlled fashion, and thus explore causal relations between predictors and outcomes (Griffin & Kacmar, 1991). However, experiments typically lack the realism and depth of fieldwork, qualities which also may be important to developing a more complete picture of the trust repair process. But a major challenge of fieldwork in comparison to experiments is the difficulty of gaining access to organizations that are either in the midst of a crisis or have recently experienced one (Gillespie & Dietz, 2009). Most organizations are poor at responding to trust failures (Schwartz & Gibb, 1999), so it is unlikely that top management would allow outsiders to investigate what had gone wrong internally and how to fix it. For this reason, many field studies use a retrospective case study methodology (Gillespie & Dietz, 2009). Unfortunately, both questionnaire-based self-report measures and qualitative interviews are retrospective cognitive appraisals and may be subject to self-

report bias (see Donaldson & Grant-Vallone, 2002). The following paragraphs discuss some of the potential problems with the extant empirical trust repair research in further detail

**Table 3.1** contains a summary of the level of analysis and trust referent of each empirical paper reviewed in this chapter. The level of analysis refers to the level at which the study takes place. It refers to the party whose trust has been violated. The referent refers to the party being trusted, typically the transgressor.

**Table 3.1 - Level of Analysis and Referent in Empirical Trust Repair Studies**

LEVEL (i.e., the level(s) of analysis of a study – usually the violated party)	REFERENT (i.e., the transgressing party)				
	Individual	Group	Organization	Industry	Multiple
Individual	17	1	--	--	--
Group	1	--	--	--	--
Organization	10	--	3	--	3
Industry	--	--	--	--	1
Institution	1	--	--	--	1
Total	29	1	3	--	5

*Note.* 31 empirical papers were reviewed in this chapter. The total implied in this table does not match that number because some papers contained multiple studies at different levels and with different referents.

As shown in **Table 3.1**, the majority of empirical studies on trust repair have been conducted at the individual level, and there has been very little empirical work done at the group level. Indeed, only a single experimental study by Kim et al. (2013) has investigated a group-level response to an individual's transgression. More research has been conducted at the organizational level, and/or with the organization as a referent. Of the organization-level studies, most have individuals as a referent (that is, individual trust in an organization).

However, the existing empirical work at the organizational level still may have some gaps. Of the extant experimental studies at this level, few use stimuli from real organizational trust failures, and none consider affect. Thus, as will be seen when they are described in more detail later in this document, the studies that I have conducted for my dissertation contribute by exploring the role of affect in real-life organizational

failures and repair efforts, using real-life stimulus materials or situations. Further to this point, only two of the empirical trust repair papers that I reviewed in this section used more than one type of research design (for instance, an experiment and a field study). Although many papers conducted multiple studies within an article, they tended to be the same, either all experimental, or all interview-based. Replication of results over multiple studies, particularly using different methodologies, bolsters confidence in findings and provides some evidence of generalization (Rietzchel, Wisse & Rupp, 2017). This is another strength of my own research programme: Studies 1 and 2 are experiments and Study 3 is a cross-sectional survey. This enabled me to first ascertain whether there is a causal link between affect and trust, and then to address whether such findings replicate and generalise across contexts.

**Process measurement.** In Chapter 2, I argued that trust should be measured as a process, while noting that the three stages of my proposed model form part of a larger process that includes a feedback loop (Dietz & den Hartog, 2006; Mayer et al., 1995). Given this perspective, I reviewed the components of the process (belief, decision, and action) measured in each of the trust repair studies included in my summary of the literature (note that the field studies using case study methodologies were coded as being not applicable to this summary of process measurement).

On the surface, it appears that the majority of the studies in this review measure the trust process in its entirety ( $N = 9$ ). However, there are some methodological issues which indicate that this may not necessarily be the case. Firstly, in all instances in which action is measured in an experiment, it is done so based on an economic game such as the prisoner's dilemma. As discussed in Chapter 2, this is problematic because while "money sent" could be considered as a trusting action, it does not reflect other aspects on which trust may be based. It is just one form of trusting behaviour. Furthermore, such actions occur in contexts where relationships begin and end over the course of an experiment. Behaviour in experiments does not have future consequences for participants. Obviously, in organizational contexts this is not the case; actions have consequences and relationships last for prolonged periods of time. Another issue is that while some researchers measure all components of the trust process in a single study, often the process components are measured separately across the different studies included in a single article. For instance, Haesevoets et al. (2015) conducted two studies to test whether money would prove to be an effective means to

repair trust after an integrity violation versus an ability violation, and if overcompensation would help in this regard. In Study 1, the authors measured belief (i.e., “I think person A means well for others”) and decision (i.e., “I trust person A”). In Study 2, they measured action by asking participants whether they would rather complete a task with Player A or Player B after witnessing A appearing to commit either an ability- or integrity-related transgression towards B in an unrelated experimental task. The manipulation consisted of Player A offering Player B no compensation, equal compensation, or overcompensation. Hence, the trust process was never measured in its entirety in this article.

In a repeated trust game, Schweitzer et al. (2006) measured trust as a decision (i.e., “How much do you trust your partner?”) and as an action. The action involved the player either taking an offer and ending the round or passing it and tripling the amount available, but giving the other player (in this case, a computer simulation) the decision as to how much money to return. Beliefs relating to the participant’s partners’ ability, benevolence and integrity were also measured, yet were done so at the end of the experiment. Ex-post beliefs were measured using one item each pertaining to benevolence, integrity, and reliability. One item relating to decision (“how much do you trust your partner?”) was also included, and the items were summed. The average of the sum total represented post-experiment trust. Relating back to my discussion of the measurement of trust in Chapter 2, there are some problems here. Firstly, beliefs and decision are amalgamated into a single measure of trust, yet three of the items (those relating to beliefs) are perceptions of trustworthiness. In this respect, it appears that Schweitzer and colleagues (2006) fall foul of the perceived trustworthiness paradigm. Secondly, decisions, both ex-post and during the experiment, consist of single-item measures that explicitly use the word “trust”. Explicit use of the word “trust”, as explained in Chapter 2, is not good practice (Blois, 1999; Cummings & Bromiley, 1996; Dietz & Den Hartog, 2006). Further, if one is to consider trust as a multifaceted construct, as I do, single-item measures are not sufficient as they imply trust is unidimensional (McEvily & Tortoriello, 2011).

One article that does measure the complete trust process in a single study is that of Spicer and Okhmatovskiy (2015). Here, the authors measure trust in government, top politicians, state ownership, and state regulation as determinants of where participants keep their savings in the wake of the financial crisis (in a state-

owned bank, in a private bank, or in cash). However, affect is not measured in this paper.

Another example is an experimental study by Dirks et al. (2011) in which trustworthiness beliefs are measured alongside actual behaviour using a trust game. Here is another potential issue relating to the trust process. The majority of studies in this review that measure the entire trust process do not explicitly measure the decision to trust. Beliefs and actions are measured in the Dirks et al. (2011) study. The decision is not explicitly measured, yet implicitly implied through the undertaking of the action. Conversely, studies that measure belief and decision, but not action, do so explicitly. This review indicates that just one empirical work explicitly measures the entire trust process in a single study. In this respect, my study makes a contribution by measuring the trust process in its entirety. Moreover, it considers the role of affect in the process.

**Affect in trust repair.** Of the 42 papers reviewed, only five considered emotion as central to the process of trust repair. Other articles may discuss emotion, but do so in passing, considering it something worthy of future research, or without explicitly measuring it (e.g., Gillespie et al., 2014; Schweitzer et al., 2006). Of the conceptual papers reviewed, Tomlinson and Mayer (2009) considered the role of specific emotional reactions of the trustor in the trust repair process. Chen et al. (2011) used the ABI model developed by Mayer and colleagues (1995) as a framework to explore which emotions are likely to relate to breaches the different facets of trustworthiness (ability, benevolence, and integrity). One experimental paper explicitly measured positive and negative affect during a trust game (Bottom et al., 2002). Two field studies also considered affect in trust repair. Chen et al. (2013) investigated the role of positive mood in mediating trust repair in e-commerce. In a qualitative study of BP executives' responses to the organization during and after the 2010 Gulf of Mexico oilrig explosion and spill, Petriglieri (2015) focused on whether relationship repair between the organization and its employees is possible. She considered the emotionality of ambivalence, the co-existence of both positive and negative feelings towards another, and its resolution as a pathway to relationship repair. I analyse these articles in further detail later in this chapter.

### **Experimental Levels of Analysis and Transgression Types**

Perhaps unsurprisingly, given the nature of experimental research, no studies appear to have been conducted at the organization-level. However, organizations have been used as referents in two experimental study papers. Both used vignette studies in which individuals rated the trustworthiness of organizations depending on their trust repair responses (Nakayachi & Watabe, 2005; Van Laer & de Ruyter, 2010). Nakayachi and Watabe (2005) used materials that related to existing organizations. It is unlikely that the organizations presented in the vignettes had any personal relevance to the participants, although this was not explicitly stated. Indeed, the organization in the Van Laer and De Ruyter (2010) paper was fictional, potentially decreasing the level of psychological realism of their experiments.

Another interesting point is that many experiments have explicitly examined integrity and ability failures (Dirks et al., 2011; Kim et al., 2004; 2006) Van Laer and de Ruyter (2010) or specifically focused on an integrity-based failure. Although Nakayachi and Watabe (2006) used trustworthiness measures relating to the ability, benevolence and integrity of the organizations in their vignettes, they did not explicitly mention the type of transgression that occurred in each study. Their first study, which concerned a product recall, was likely an example of an ability failure. The second, involving a company using chicken in their products from a country of origin that was banned by the government, was probably an integrity failure. The third study was a trust game. Trust games are most closely related to integrity transgressions, as when transgressions do occur within such games, they tend to involve deception in an attempt to achieve the best economic outcome possible. There may be a lack of benevolence in such actions, but in all the cases above, participants played with strangers behind a computer screen; no prior relationship existed, so it is unlikely that players would consider benevolence-related actions related to unseen, unknown others. From the review of the experimental studies, there are no explicit examples of benevolence-based transgressions. My research programme considers failures related to ability (Studies 1 and 2), and integrity (Study 3). It is important to differentiate between failure types, as different emotions are likely to be relevant after an ability failure than would be after an integrity failure (Chen et al., 2011; Tomlinson et al., 2009).

### Experimental Trust Repair Strategies Tested

**Table 3.2** displays a summary of the types of repair strategies tested in the experimental papers, divided into non-substantive and substantive responses.

**Non-substantive responses.** Many extant experimental trust repair research has focused on non-substantive responses to trust violation. These tend to be verbal in nature, although reticence and inaction also have been explored. Findings related to such strategies are discussed below.

*Apologies.* Of the trust repair strategies tested in the experimental papers, apologies were examined more than any other strategy. Eleven of the papers examined this variable, usually in combination with other strategies. Bottom et al. (2002) found that apologies were effecting in restoring cooperation, indicating that apologies may be more than mere “cheap talk” (Bottom et al., 2002: 500). Similarly, other researchers have shown that offering an apology after deceiving another in a trust game could lead to the trustee agreeing to trust the deceiver again (De Cremer, 2010; De Cremer & Schouten, 2008; Schniter et al., 2013). Research has demonstrated the additive effect of explanation and penance coupled with apology as being more effective than apology alone (Bottom et al, 2002; Elangovan et al., 2015).

*Denials.* Kim et al. (2004; 2013) and Ferrin et al. (2007) found that denials were more likely to improve perceptions of trustworthiness after an integrity-based violation than an apology. Van Laer and de Ruyter (2010) also found this to be the case when denial content was coupled with an analytic format vs. an apology in an analytic format after an integrity-based transgression. That is, denials that consisted of factual, analytic content were more successful in repairing perceptions of trustworthiness than apologies based on factual, analytic content. However, Van Laer and de Ruyter (2010) found that an apology with a narrative format was effective in repairing perceptions of trustworthiness in the same scenario. Put differently, when an apology was given as part of a “story” of what happened, it was more successful in repairing perceptions of trustworthiness than an apology that only relayed facts and figures. This may be due to apologies being associated with guilt, and guilt being regarded as a negative sign after an integrity transgression (Snyder & Stukas, 1999). Human failings may be deemed more acceptable after factual denials because facts correspond to a lack of guilt in a way that apology does not. Equally, a narrative



apology may make a transgressor appear more “human”, thus facilitating the restoration of positive beliefs and intentions.

*Explanations.* Shapiro (1991) posited that offering explanations alone would not be sufficient to negate negative reactions to bad news. However, from an organizational perspective, studies by Van Laer and de Ruyter (2010) indicate that storytelling to give context and an apology coupled with involving the participant in an engrossing narrative explanation was effective in repairing trust after an integrity-based transgression. Having the wrongdoing party explain him or herself was deemed to be more effective at repairing trust than having a PR mouthpiece comment. Bottom et al. (2002) showed that explanations coupled with apologies could repair trust, and Elangovan et al. (2015) found that apologies and explanations were more effective in minimising the erosion of trust than apologies alone.

*Reticence, Inaction and Promises.* These variables did not fit into any of the other categories. Reticence and inaction are similar, but not the same. Reticence involves a party neither confirming nor denying the veracity of an allegation (Ferrin et al., 2007), and inaction, in the context of Elangovan and colleagues’ paper (2015), consists of not engaging in any trust repair activity. Ferrin and colleague (2007) showed that reticence is a suboptimal response after both competency- and integrity-based violations compared to denials and apologies, respectively. Results obtained by Elangovan et al. (2015) indicated that engaging in some form of trust repair behaviour (whether it be apology, explanation, or penance) was more effective in minimising the erosion of trust than doing nothing at all.

Schniter et al. (2013) posited that transgressors should apologise, make a promise regarding cooperative behaviour in the future, and be willing to make a financial sacrifice to the wronged party (i.e. penance). Schweitzer et al. (2006) also found that promises can aid trust repair; they can significantly speed up the process. However, prior deception negated the effectiveness of a promise.

**Substantive responses.** Recently, studies focusing on the results of taking action aimed at constraining the possibility of future violations have been undertaken. Many demonstrate that offering penance may elicit future cooperation after a trust breach more than verbal actions. The two substantive strategies tested in the experimental studies are the offering of penance, and the willingness to self-regulate.

**Table 3.2 - Summary of Trust Repair Strategies Tested in Experimental Research**

	Verbal				Substantive		Violation / Personally relevant?
	Apology	Denial	Explanation	Other	Penance	Regulation	
Shapiro (1991)			X				Integrity – No
Bottom et al (2002)	X	X	X		X		Integrity – Yes
Kim et al. (2004)	X	X					Ability / Integrity - No
Nakayachi and Watabe (2005)						X	Ability / Integrity - No
Kim et al. (2006)	X						Ability / Integrity - No
Schweitzer et al. (2006)	X			X – Pr.			Integrity - Yes
Ferrin et al. (2007)	X	X		X – Re.			Ability / Integrity - No
De Cremer and Schouten (2008)	X						Integrity - Yes
Van Laer and de Ruyter (2010)	X	X	X				Ability / Integrity - No
De Cremer (2010)	X				X		Integrity - Yes
Desmet et al. (2010)					X		Integrity - Yes
Desmet et al. (2011)					X		Integrity - Yes
Dirks et al. (2011)					X	X	Ability / Integrity - No
Schniter et al. (2013)	X			X – Pr.	X		Integrity - Yes
Kim et al. (2013)	X	X					Ability / Integrity - Yes
Haesevoets et al. (2013)	X				X		Integrity - Yes
Elangovan et al. (2015)	X		X	X – In.	X		Not Stated - No
Haesvoets et al. (2015)					X		Ability / Integrity - Yes

*Note.* Pr. = Promise, Re. = Reticence, In. = Inaction, Violation type refers to whether the trust violation stimuli in the paper is ability-, benevolence-, or integrity-based. Personally relevant = if the scenario faced by participants affected them personally. All cases in which the answer was “yes” involved economic participation in a trust game.

*Penance.* The offer of financial compensation after a trust transgression has been shown to be incentive enough for wronged parties to trust deceitful partners in further rounds of trust games (Bottom et al., 2002; De Cramer, 2010; Desmet et al.,

2010; 2011). The combination of apology and financial compensation also proved to elicit further trusting behaviours when the compensation was below the commensurate amount (e.g. undercompensation), whereas undercompensation alone did not (Haesevoets et al., 2013). Moreover, Haesevoets and colleagues (2015) found that overcompensation was not more effective than compensation that equated to the amount lost in repairing trust. Elangovan and colleagues (2015) showed that penance in the form of offering a remedy to a problem, coupled with an apology and an explanation, was a more effective strategy in minimising the erosion of trust after a transgression than offering an apology alone, or an apology with an explanation.

*Regulation.* In their study of “hostage posting”, Nakayatchi and Watabe (2006) found that by voluntarily introducing monitoring systems and agreeing to punish themselves should they make a similar transgression in the future, organizations that made trust transgressions could improve their trustworthiness in the eyes of consumers. In their experiments into the effects of penance and regulation on trust repair, Dirks et al. (2011) found that both substantive efforts were effective in repairing trust, but only to the extent that participants perceived the transgressor to have repented for their actions.

In sum, it appears that the more varied efforts that transgressors make to repair trust, the more successful such efforts are likely to be. Research suggests that substantive strategies are more effective in repairing trust than non-substantive strategies alone. Finally, engaging in some form of trust repair activity seems to be better than engaging in reticence or doing nothing at all. In my studies, the trust repair manipulations involve both verbal non-substantive responses, and substantive responses to failures by the organizations’ Chief Executive Officers (CEOs). Specifically, the response to an ability failure in Studies 1 and 2 involves an explanation and self-regulation. In Study 3, after an integrity-failure, the trust repair manipulation involves a response with apology, explanation, and penance content.

### **Level of Analysis and Transgression Types in Field Work Studies**

It is evident that there are more studies at the organization-level in field work study settings than in experimental settings, and studies at the level of the institution have recently been advanced.

**Levels of analysis.** Seven of the eight organization-level studies were conducted using a case study methodology. Six and Skinner (2010) also used a case study method for their study of trouble between dyadic pairs of employees, as did Grover, Hasel, Manville and Serrano-Archimi (2014). Of the two institution-level field studies, one used a case study approach (Mueller, Carter & Whittle, 2015). Case study methods are particularly useful in tracking complex social phenomena over time, in a particular context, to offer holistic analysis of a given situation (Sigglekow, 2007). With this in mind, it is clear why this methodology has proven popular in organization-level trust repair research, given its complex longitudinal nature.

The remaining organization-level study in this review, that of Webber, Bishop and O'Neill. (2012), utilised both quantitative and qualitative approaches. One-time in-depth interviews and questionnaires were undertaken. Webber and colleagues' study (2012) involved individual managers measuring the trustworthiness of their organization's top management team (TMT). It has been argued that top management symbolizes the organization, and through TMT actions, employees' impressions of it are formed (c.f. Gillespie & Dietz, 2009). In this respect, I believe that TMT can represent the organization-level when it comes to level of analysis. Chen, Wu and Chang (2013) used questionnaires to measure individuals' responses to trust repair efforts by organizations, and at the institutional level, Spicer and Okhmatovskiy (2015) also use a survey to measure trust government and banking.

**Violation types.** As with the experimental studies, there are no explicit studies of benevolence-based transgressions. Kim et al. (2009: 417) posit that a reason for this may be that people neither "weigh negative information about benevolence as heavily as negative information about integrity, nor weigh positive information about benevolence as heavily as positive information about competence". Another reason offered by Kim and colleagues (2009) is that the majority of trust repair research has been conducted in contexts where relationships are either completely new or nascent, thus benevolence-based attributions may not be particularly applicable.

Gillespie et al. (2014) explicitly examine an integrity-based transgression, and Webber et al. (2012) explicitly measure both competence-based and integrity-based transgressions. Other authors don't state which type(s) of transgression they are studying, but Lamin and Zaheer (2012) focused on firms that were caught using sweatshop labour (integrity), whilst Elsbach (1994) evaluated a wide range of

transgressions relating to public concerns over the use of hormones in cattle rearing, water contamination by manure, treatment of cattle, and grazing on public lands which left the California cattle industry facing a great deal of negative press (integrity and benevolence).

**Trust repair strategies tested in fieldwork settings.** A review of the field work in organizational trust repair reveals some interesting differences between some of the strategies tested and proposed in comparison to those offered in experimental studies. For instance, whilst some experimental research suggests that transgressors should offer a denial rather than apology (Kim et al., 2004) or an apology with an external attribution (Kim et al., 2006) after an integrity-based transgression at the interpersonal level, field work at the organization-level suggests that defensive approaches which involve denial and obfuscation may harm trust repair efforts between an organization and its stakeholders (Gillespie et al., 2014). Similarly, Chen et al. (2013: 367) claimed that e-vendors should “instantly respond to negative events by providing apology, adequate information and financial compensation” in order to turn affected consumers’ negative feelings into positive moods and rebuild positive public perceptions regarding their (the vendor’s) intentions. This may be due to the increased complexity of trust at the organization level (Gillespie & Dietz, 2009). Another possible explanation of these differences concerns the continuity of the relationships in each example. In the experimental studies, the relationships exist only within the confines of the experiment itself; once the experiment ends, so does the relationship. On the other hand, in the field examples relationships continue. In this respect, participants in experiments do not have to consider the wider implications of a particular trust repair response outside of the experiment.

Elsbach’s (1994) findings suggested that adequate accounts of organizational transgressions can protect legitimacy, yet Lamin and Zaheer (2012) indicated that it may not be possible to improve negative perceptions held by the public after a firm’s legitimacy is challenged. They believed that investors and the wider public inhabit two different “thought worlds”, and that the two stakeholder groups cannot be reconciled simultaneously; investors value profit above all else, whilst the general public value fairness.

Some of the field studies either directly or indirectly test or base their theory on two of the theoretical bases of trust repair: structural or attributional (c.f. Dirks,

Lewicki and Zaheer, 2009). I was unable to find an explicit field study test of social equilibrium, or a paper in which it was the primary theoretical underpinning.

*Structural.* Both Sitkin and Roth (1993) and Gillespie et al. (2014) found evidence to suggest that a structural approach comprised of legalistic remedies was not efficient in promoting trust repair. Indeed, although the latter team agreed that structural reforms comprised of imposing controls, regulation and sanctions can be used to regulate distrust, they are not sufficient as a sole strategy to repair trust as they do not restore positive expectations of trustworthiness.

In a recent special issue related to trust in crisis in *Organization Studies* (2015, Vol: 36, Issue: 9), a number of articles explored the impact of structural reforms on trust repair. Eberl et al. (2015: 1220) indicated that while structural reforms may have been necessary to signal to external stakeholders that Siemens were attempting to change their ways after committing an integrity violation, they could be a “double-edged sword” as they may prove to be problematic for the employees directly affected by them.

Mueller et al. (2015) indicated that structural reform of the UK Big Four audit companies could only be legitimised and accepted when a sense-making process of what went wrong, and who or what was responsible for the companies’ (and the sector’s) role in the global financial crisis occurred. Moreover, Mueller and colleagues (2015) expressed that this could only take place through the transfer of trust from independent enquiry leaders to the damaged audit industry. This suggests that, as noted in previous research, structural reforms alone are not sufficient to repair trust (Gillespie & Dietz, 2009; Gillespie et al., 2014; Sitkin & Roth, 1993).

*Attributional.* Chen et al. (2013) built on conceptual work by Tomlinson and Mayer (2009) by empirically investigating the causal impact on positive moods of consumers. Their findings indicated that the perceived controllability of an event played no role in switching negative feelings to positive moods. This work added to extant evidence that Chinese consumers are less likely than Western consumers to believe that a negative event is controllable (Poon, Hui & Au, 2004). Six and Skinner (2010) took a cognitive, attributional approach to their work on trust.

In the following section, I analyse the articles in this review that consider the role of affect, including Tomlinson and Mayer’s (2009) paper that uses an attributional approach explore the role of affect in trust violation in repair.

### **Emotion and Trust Repair**

There have been several calls for the further investigation of the role of affect in the trust repair process (Dunn & Schweitzer, 2005; Fulmer & Gelfand, 2012; Gillespie et al., 2014; Kim, et al., 2009; Kramer & Lewicki, 2010; Schweitzer et al., 2006; Tomlinson & Mayer, 2009), yet I was only able to find five papers that meaningfully consider it. This section analyses the reviewed articles that either conceptually argue for or empirically test the role of affect in trust repair.

Concerning conceptual contributions, two papers in my review consider the centrality of emotion to trust breach and repair (Chen et al., 2011; Tomlinson & Mayer, 2009).

**A conceptual model of attribution, emotion, and trust repair.** Using Weiner's (1985) causal attribution theory, Tomlinson and Mayer (2009) developed a model of trust repair. Per their model, a general negative emotional response is felt after a negative outcome, which then leads to cognitive sensemaking in the form of causal ascription and causal attribution. Specific emotional reactions are likely to arise, depending on the causal attribution made. The causal attribution and the specific emotional reactions affect subsequent trustworthiness and trust perceptions. Specific attributions may be modified or invalidated if more information is received. This depends on the response of the violator, and the authors describe four social accounts that violators may use in different scenarios: (a) apologies, which are attempts to assert that the cause of the negative outcome is unstable and is not likely to happen again; (b) justifications, which are attempts to reduce the perceived negativity of the outcome; (c) denials, consisting of attempts to shift attribution from internal to external (in relation to the trustee); and (d) excuses, which attempt to establish external, uncontrollable and / or unsustainable attributions as cause(s) of the negative outcome.

A voluntary action is more likely to signal true remorse, repentance and desire to reform than a "forced" action (e.g. in response to media pressure). However, should the transgression be attributed to something external, outside of the trustee's control, or something unstable and not likely to happen again, trustworthiness is not likely to be damaged as heavily as it otherwise might be if the attributions are internal, controllable and/or stable.

Attribution theory is a prevalent theoretical underpinning in trust repair research. Yet, Tomlinson and Mayer's (2009) article is the only one to date to devote

an entire paper to the relationship between the two phenomena, and to derive a model of trust repair from it. Their approach has undoubtedly helped advance theory development; it has taken the most prominent theoretical base used in the literature and devised a model that has formed the basis of recent research (Chen et al., 2013). However, Tomlinson and Mayer (2009) focused on the principles that characterize the attribution process (such as locus of causality, controllability and stability), rather than on the mental operations by which processes are made before, during and after a person makes an attribution.

In relation to this point, Smith and Miller (1983) demonstrated that personality attributions occurred more rapidly than attributional judgments. A mounting body of evidence suggests that we make judgements about others' trustworthiness through facial cues in milliseconds (Bar, Neta & Linz, 2006; Willis & Todorov, 2006), even outside of conscious awareness (Freeman, Stolier, Ingbretsen & Hehman, 2014). If trustworthiness (and trust?) judgements are made more rapidly than attribution judgements, then it may not be possible for attributions to be mediators. To this end, Gilbert, Pelham & Krull (1988) integrated the process of dispositional attribution into a three-stage model which consists of: a categorization stage, in which the individual asks "what happened?"; a characterization stage, in which dispositional attributions are inferred; and a correction phase, in which situational information and other sources may be used to either discount or back up the dispositional attribution. The first two stages are automatic, but the correction stage is a controlled process that requires some attention in order to be undertaken.

Gilbert and colleagues assumed that such attentional capacities are limited, and that cognitive load or "busyness" will impair one's ability to correct their automatic dispositional attributions using situational information. This hypothesis has been supported empirically (Gilbert, Pelham & Krull, 1988). In a replication of that study, Gilbert, Krull and Pelham (1988) showed that when people self-regulate they act as cognitively busy people do and thus are less able to make use of situational information than those that do not self-regulate. This suggests that cognitive busyness and self-regulation will cause attributions to be inaccurate. Relating this to Tomlinson and Mayer (2009), excessive cognitive loading and/or self-regulation may lead to the inability of violated parties to actually complete the "cognitive sensemaking" stages of their model, or give credence to the trust repair efforts of the violator. The authors



do mention Gilbert's process model, and suggest that "the latter [correction process] involves more mental effort and is engaged in when the observer has the motivation and cognitive resources to do so" (p. 92). Whilst motivation to disambiguate the meaning of trust-breaching action or behaviour may be present, in the context of an organizational trust violation, the cognitive resources to do so may not be available.

**The affective properties of trustworthiness components and the salience of different emotions after their violation.** Using Mayer and colleagues' (1995) ABI model, Chen et al. (2011) focused on the affective elements of the ABI components and the emotions that trustors are likely to feel depending on which element is most prominent in breaches of trust. They assumed that ability is the least affective, as discerning someone's competence and skill can be achieved by assessing their track record in a particular domain; a cognitive undertaking. However, a successful collaboration completed competently may foster positive affective feelings (Williams, 2001). Integrity is less tangible than ability or benevolence, so it most likely exists as reputation within a community. In discerning it, the trustor is likely to have to recall his or her own personal experience, as well as seek others' testimony on the trustee's adherence to shared principles. The trustor's assessment of value congruence and perception of shared social identity is also likely to be considered when evaluating another's integrity. Although there has been debate about whether integrity should be considered as affective or cognitive (Dietz & Den Hartog, 2006; McAllister, 1995), as per Chen et al. (2011), I argue that it has an affective base, being more affective than ability but less so than benevolence. With regards to benevolence, recollection of encounters that bring about pleasant or unpleasant encounters, compromise, conflicts of interest and sacrifice is primarily affective. Such instances are examples of direct cues that signal the direct intentions of the trustee towards the trustor in a way that ability and integrity do not. The authors also hypothesised which emotions were likely to be felt in trust breaches, depending on which component is breached. These are as follows: (a) Ability: disappointment, frustration and annoyance; (b) Integrity: aversion, contempt and loathing; and (c) Benevolence: distress, despair, and fury. It is likely that the average negative affective emotions will be higher in breaches of benevolence, followed by integrity, followed by ability. The first emotion in each list should be lowest among the three in terms of intensity, followed by the second, with the third being the most intense.

The assertions posited by Chen et al. (2011) in relation to the role of relevance of particular specific emotions in the midst different breach domains (i.e. ability vs. benevolence vs. integrity) have not been empirically tested. With regards to the proposed specific emotions relating to ability failures, disappointment, frustration, and annoyance, this may depend on the context of the failure. For instance, in an organizational setting where person A makes a mistake than affects person B's ability to do their job, person B may feel one or more of the emotions posited by Chen and colleagues. However, if an ability failure involves something that could harm people, such as those made in product recall cases, feelings of fear and anger may be more prevalent. An example of this would be the various technical errors in Toyota vehicles that led to recalls between 2009 and 2011 due to defective accelerator pedals. Notwithstanding, empirical research that tests the propositions put forward by Chen and colleagues (2011) relating to the salience of different emotions after different types of trust breaches may be fruitful, and this is something that my studies provide.

**An experiment considering positive and negative affect in cooperation.**

Only one experimental paper in my review considered emotion, that of Bottom and colleagues (2002). Using a prisoner's dilemma experiment, results suggested that violations after longer interactions resulted in more emotional reactions than violations after shorter interactions. Moreover, the authors found that offers of penance after a violation had significant positive direct effects on positive emotions, and on cooperative behaviour. Negative affect did not appear to have any effect on behaviour.

One potential issue with the study concerns the measurement of emotion, particularly negative emotion. The items that comprised the positive emotion factor were "good", "pleased", and "satisfied". For negative emotions, the items were "distressed", "angry", "hostile", "astonished", and "surprised". "Astonished" and "surprised" are ambiguous; they could have either a positive or negative valence. In Russell's (1980) circumplex model of affect, "astonished" is positioned at about 70°, indicating it involves a high degree of arousal and a fairly neutral level of pleasure. Notwithstanding, it fell on the "positive" side of the circumplex, so for it to be considered as a negative emotion seems strange. Equally, research into surprise has yielded inconclusive results regarding its valence. Reisenzein and Meyer (2009: 387) contended that "in contrast to paradigmatic emotions such as joy and fear, surprise does not presuppose the appraisal of the eliciting event as positive (motive-congruent)

or negative (motive-incongruent), and the feeling of surprise is per se hedonically neutral rather than pleasant or unpleasant”. In contrast, recent findings by Noordewier and Breugelmans (2013) suggested that surprise may be both personally experienced and perceived by others as negative, given that it interrupts ongoing thoughts and activities, which is unpleasant and disrupts the desire for predictability and structure. This is not to say that surprise can never be positive, rather it takes a short time for the stimulus that elicits the surprise to be understood, after which point it may be perceived as good. In light of this, the inclusion of “surprise” in Bottom and colleagues’ (2002) negative emotions category may be understandable. It is unlikely that participants who did feel surprised would then feel positive afterwards, especially if they felt it as a reaction to violation. The same may be said of the rating of “astonished”. Even so, the inclusion of two such ambiguous items alongside three items that clearly have negative valence may call into question the utility of the authors’ negative emotions category to clearly measure negative emotions. This may be why the factor did not prove to be influential in predicting cooperative behaviour (or lack of).

**Attribution and positive affect in repairing consumer trust after a negative shopping experience.** Chen and colleagues (2013) considered the roles of trust violation attributions and positive affect as a mediating process in the repair of trust following a negative online shopping experience. They used a cross-sectional survey design and recruited a sample of 513 Taiwanese participants who had faced a negative online shopping experience in either the clothing ( $N = 332$ ) or consumer electronics ( $N = 181$ ) industries. SEM analysis indicated that there was no relationship between attributions of negative events (that is, locus of causality, stability, or controllability) and post-encounter trust, suggesting that understanding whom and what to blame for a negative occurrence does not influence the repair of consumer trust. However, stability and locus of causality did have significant, negative effects on respondents’ positive mood, though controllability did not. Positive mood had a positive, direct effect on post-encounter trust, accounting for almost 57% of the variance in it, indicating the importance of changing negative reactions to positive moods if e-vendors are to repair the trust of their consumers. However, the authors did not include any measures of negative affect. This decision is confusing, especially as the scenario involves trust violation and repair, and that reducing negative mood has been posited as being integral to successful trust repair efforts (Dirks et al., 2009).

In addition, the measurement of trust in this study contains similar issues as some of the papers discussed in Chapter 2. It is an amalgamation of the belief and decision stages of the trust process, considering perceptions of trustworthiness and willingness to be vulnerable. However, with regards to perceptions of trustworthiness, items relate to dependability and reliability (i.e., “generally speaking, this company is dependable/reliable”). While these items may relate to a component of an extended ABI+ model (Dietz, 2011), they do not appear to tap into the core facets of ability, benevolence, or integrity. Items covering the decision stage relate to willingness to buy products from the company, willingness to recommend to a friend or family member, and willingness to try new products introduced by the company. Finally, one item explicitly contains the word “trust” (“generally speaking, I trust this company”). Actual behaviour was not measured. From a process perspective, I contend that the post-encounter trust construct should in fact consist of two factors, one relating to perceptions of trustworthiness and the other to willingness to trust. More generally, the “trustworthiness” items only consider one facet of trustworthiness, and not one pertaining to any of the ones that exist in Mayer and colleagues’ (1995) seminal model.

Scholars suggest that after a trust violation, different strategies are required depending on what trustworthiness dimension has been breached (Harris, Keevil & Wicks, 2013; Kim et al., 2004, 2006, 2013). Chen et al. (2013: 361) do not explain which kinds of violation their participants experienced, merely that they all had “unhappy shopping experiences”. In this respect, it is not possible to ascertain whether the trustworthiness facets that the authors capture in their trust measure are particularly relevant to the type of violation(s) that occurred. In sum, the measurement of post-encounter trust in this paper seems flawed.

**A qualitative study of employee trust repair and organizational (re)integration: the role of ambivalence.** In the final paper examined in this review of affect in trust repair, Petriglieri (2015) adopted a qualitative approach to review the case of the BP oil spill and its effect on BP employees. Specifically, she explored whether organizational members’ relationship with the company could be repaired once damaged, focusing on themes of personal and organizational identification. Concerning emotion, Petriglieri (2015) considered the concept of ambivalence and its resolution. Ambivalence “involves the co-existence of positive and negative feelings and/or thoughts towards the other”, and per this conceptualisation, relationships will

continue if both parties believe that the negative elements are acceptable due to the greater worth of the positive ones (Petriglieri, 2015: 522-523). The author argues that ambivalence is always present in a relationship, if not always salient, but it is resolved through active choice. She found that there were two key factors in helping employees resolve the ambivalence they felt towards BP. These were *identity enactment* and *credible social information*. Identity enactment involves one understanding who one is through observing their own personal actions (Petriglieri, 2015). Those who could engage in identity enactment through co-creating relationship repair by actively working on BP's response to the oil spill were able to amplify the positive side of their ambivalence and strongly (re)identified with BP. For those organizational members unable to engage in identity enactment, whether they re- or de-identified with BP depended on the source of social information they received regarding the incident. Those who only received positive social information resolved their ambivalence through *conscious domination*; their positive feelings towards the company overrode, but did not eliminate, the negative ones, leading to weak (re)identification with BP. Conversely, people who received credible negative information about the incident from external sources would amplify the negative side of their ambivalence, de-identify with BP, and seek to exit the organization.

This section reviewed the conceptual, experimental, and fieldwork studies that consider emotion in the trust repair process. **Table 3.3** provides a summary of this review. Considering the articles as a body of work raises an interesting point about the influence of positive and negative emotions. Although the conceptual papers both focused on negative emotions, empirical results indicated that positive emotions may be particularly relevant in repairing trust. However, Chen et al. (2013) did not measure negative affect at all, and some of the items included in Bottom and colleagues' (2002) negative emotions factor may not actually have a negative valence. Petriglieri's (2015) qualitative study into the need to resolve feelings of ambivalence following an organizational transgression provides an interesting platform for further analysis of the consideration of how both positive and negative feelings towards a target ebb and flow, and what this means with regards to repairing trust. My study builds on these works by exploring the role of both positive and negative affect in trust repair. Furthermore, general mood states and specific, targeted emotions are included. No previous study has explored the influence of both mood and specific emotions on trust repair.

**Table 3.3 - Summary Table of Papers Concerning Trust Repair and Emotion**

<b>Author (Year)</b>	<b>Article Type</b>	<b>Emotion(s) Discussed/ Measured</b>	<b>Limitations</b>
Petriglieri (2015)	Field	Ambivalence	Difficulty in measuring ambivalence through survey measures. Possible selection bias. Qualitative design does not allow for testing of causality.
Chen et al. (2013)	Field	Positive emotions (happy, glad, pleased joyful).	No consideration of negative emotions. Questions regarding measurement of trust. No measurement of behaviour. Violation type(s) (ability, benevolence, or integrity) not acknowledged. Cross-sectional design does not allow for testing of causality.
Chen et al. (2011)	Conceptual	Negative emotions (Disappointment, frustration, annoyance, aversion, contempt, loathing, distress, despair, fury).	Not empirically tested. Questions regarding the negative emotions proposed after an ability failure.
Tomlinson & Mayer (2009)	Conceptual	Negative emotions (“general emotional displeasure”, anger, fear).	The scant empirical research into the role of attribution dimensions in the trust repair process does not support their utility (see Chen et al., 2013). Research indicating that personality judgements are made more quickly than situational attributions may suggest that attribution processes cannot be mediators (Smith & Miller, 1983). Depending on the cognitive resources available, people may not actually make it to the “sense-making” stage of the authors’ model. They may rely on quick, affective responses.
Bottom et al. (2002)	Experiment	Positive emotions (good, pleased, satisfied). Negative emotions (distressed, angry, hostile, astonished, surprised)	Questions over some of the negative emotion items and whether they actually represent negative emotion (specifically, surprised and astonished). Experimental design raised questions over external validity.

### Chapter Summary

This chapter consisted of a review of the trust repair literature. Two of the particularly pertinent findings of this review relate to how trust has been measured in empirical studies of trust repair, and the lack of investigation into the role of emotion in the trust repair process. With regards to measurement, many articles do consider the belief, decision, and action stages of the trust process, however only one does so over the course of a single study. Furthermore, most studies that do consider the action stage of the process do so solely via economic games such as the prisoner's dilemma or the trust game. As discussed in Chapter 2, there are other forms of trusting actions or behaviours, such as information sharing, adoption of a product or service, increased collaboration, and reduced monitoring that are not demonstrated in such games.

In relation to the role of emotion in trust repair, only five studies in my review appeared to consider this aspect, even though there have been a number of calls spanning many years for further exploration of the role emotion plays in process of trust and its repair (Dunn & Schweitzer, 2005; Fulmer & Gelfand, 2012; Gillespie et al., 2014; Kim, et al., 2009; Kramer & Lewicki, 2010; Schweitzer et al., 2006; Tomlinson & Mayer, 2009). Moreover, the studies that have considered emotion in trust repair all have limitations. I believe the empirical quantitative studies have issues relating to measurement, regarding both trust (Chen et al., 2013) and emotion (Bottom et al., 2002; Chen et al., 2013).

Given the research cited in this chapter, there is a strong rationale to further consider the impact of affect on trust violations and subsequent trust repair efforts. The following chapter concerns emotion and mood, and how they are defined and conceptualised. Moreover, I discuss how affect influences information processing to provide further evidence that emotion plays an important role in how we make social judgements such as trust.

## **Chapter 4: Affect and its Role in Information Processing**

This chapter focuses on the role of affect in decision-making and information processing. Given the sparse empirical examination of the subject in the trust and trust repair literatures, it is pertinent to explore how affect may influence such social processes to determine if further study is relevant. I begin with a brief overview of affect in social psychology, highlighting some of the reasons for the increased focus on the phenomenon over the past 30 years. I then explore different definitions and differentiate the two facets of affect: moods and emotions, before highlighting how affect influences information processing.

### **The Rise of Affect in Social Psychology**

Social psychology, especially in its early years, has been dominated by behaviourist and cognitive orientations (Forgas & George, 2001). However, over the past few decades, there has been an increase in focus on the role of affect in both social psychology and organizational settings. Forgas and George (2001) state that this change in focus was primarily driven by scholars who integrated affect into their cognitive models of human behaviour (e.g. Bower, 1981; Forgas, Bower & Krantz, 1984). Also, some researchers began to recognise that “cognition is not as logical as it was once thought, and emotions are not always so illogical” (LeDoux, 1996, in Forgas & George, 2001: 6). Indeed, some psychologists have argued that affect, rather than cognition, should be considered the primary driver of interpersonal behaviour, and that affect is crucial to making sound decisions and judgements. (Forgas & George, 2001; Izard, 1977; 2009; Zajonc, 1980; 1984; 2001). Thus, evidence indicates that discounting the consideration of emotion in favour of entirely cognitive models of decision-making and socially bound constructs, such as trust, is at best incomplete and at worst insufficient.

In psychology and the organizational literature, the term “affect” has often been used to describe mood, emotion, or interchangeably to describe both (Williams, 2001). In this thesis, I consider emotions and mood to be two different forms of affective states. However, to avoid confusion, from a measurement perspective I consider “positive affect” and “negative affect” as mood states (which can be either trait or state in nature), as per Watson, Tellegen, and Clark’s (1988) Positive and Negative Affect Schedule (PANAS). Definitions of emotions and mood follow.



### Defining Emotions and Mood

**Emotions.** Although the topic has been studied for over a century, there remains no universally accepted definition of emotion (Izard, 2010; Mulligan & Scherer, 2012). Indeed, in a recent book focusing on the relationship between emotion and rationality, Winter (2014: 18) neglected to define emotion, stating: “I have yet to find a satisfactory definition from among several dozen that I have seen in all the time that I have been studying this subject”. However, there has been considerable convergence on the components and characteristics of emotion (Izard, 2007; 2009; 2010).

First, there is the experiential component, which Frijda (1993: 383) argues is “the irreducible aspect that gives feelings their emotional, noncognitive character”. Regardless of the various elements of an emotional reaction “it is the *experience* that remains fundamental” (Weiss & Cropanzano, 1996: 18, emphasis in original). Next, one is aware of the pleasantness or unpleasantness of the emotion-eliciting event. In this respect, the experience of the event is intrinsically linked to the appraisal of that event. Thus emotion is always caused by something, e.g., “One is happy about something, angry at someone, afraid of something” (Fridja, 1993: 381). Third, emotions involve a broad range of physiological bodily changes (Fridja 1993; Izard; 1977). Finally, the experience of an emotion leads to a readiness to act through increased arousal or vigilance. As such emotions have a motivational function (Fridja, 1993; Izard, 1977; Kish-Gephart, Detert, Treviño & Edmondson, 2009).

**Mood.** In contrast to the more specific and reactive nature of emotions, moods are defined as “generalized feeling states that are not typically identified with a particular stimulus and not sufficiently intense to interrupt ongoing thought processes” (Brief & Weiss, 2002: 282). Fridja (1993) indicated that the primary distinction between moods and emotions concerns diffuseness regarding both object and response. Unlike emotions, moods lack an object to which affect is attached. Further, moods can change into weak emotions, and vice versa. An emotion changes into a mood when one loses focus on the eliciting object or event. Similarly, a mood can transform into a weak emotion if the cause of the mood is made salient. Forgas and George (2001: 28) believed that moods are more important than emotions in an organizational context as they unconsciously influence people’s thoughts and judgement. Emotions, on the other hand, “typically carry a great deal of cognitive

baggage, and there is usually considerable focal awareness concerning their origins, causes, features, and planned responses”. The distinction between the two affective states has implications relating to how emotion and mood may differentially influence information processing, a topic I return to later in this chapter.

The following section discusses the two pervading theories of emotional experience and categorisation, as they have implications for how affect is measured in the current research programme.

### **The Categorisation of Emotions**

Regarding the classification of different types of emotions, there are two pervading theories: (1) Emotions are discrete and different constructs, or (2) Emotions are dimensional and can be classified into groupings.

**Discrete emotions.** Discrete emotion theory posits that there is a short list of emotions that are biologically determined, and that can be recognised and experienced by all people, regardless of cultural or ethnic differences (Ekman & Friesen, 1971; Ekman, 1993). Over the years, scholars have proposed different lists of discrete emotions (Ekman, 1971; 1993; Izard, 1977). In his early development of Differential Emotions Theory (DET), Izard (1977) suggested that ten fundamental emotions existed: interest, joy, surprise, anger, shame/shyness, sadness, fear, contempt, disgust, and guilt. DET postulates that each discrete emotion: (a) has unique motivational and phenomenological properties; (b) serves adaptive functions and motivates different sets of behaviour; (c) may activate or attenuate other emotions; and (d) has unique neural activity (Izard, 1977). In reflecting on and updating his thesis on emotions and DET, Izard (2009: 3) proposed some further principals relating to DET and the functioning of emotions in general. The overarching principle suggested that emotion and cognition are “mingled” in the brain, that is, they are interactive and integrated. Further, Izard (1977; 2009) suggested that emotions provide information relating to motivation and action, a position shared by ‘feelings-as-information’ proponents (Schwarz, 2012; Schwarz & Clore, 1983), a theory I review in further detail later in this chapter.

With regards to the measurement of discrete emotions, the Differential Emotions Scale (DES) was developed by Izard (1977) and is one of the most widely cited and studied measures of discrete emotion (Akande, 2002; Boyle, 1984; 1986;

Boyle & Katz, 1991). The original measure contained 30 adjectives to describe the ten fundamental emotions. A meta-analysis of the reliability of the DES measure conducted by Youngstrom and Green (2003) found that the average Cronbach's alphas of the sub-scales in prior studies were acceptable, ranging from .61 for the contempt sub-scale to .77 for the fear subscale.

However, the belief that different emotions have distinct neurological pathways and processes has recently been challenged by some scholars (Feldman Barrett, 2006a; Feldman Barrett, Lindquist, Bliss-Moreau, Duncan, Gendron, Mize & Brennan, 2007; Feldman Barrett & Wager, 2006; Wilson-Mendenhall, Feldman Barrett, Simmons & Barsalou, 2011). Instead, Feldman Barrett (2006b) suggested that emotions are learned, rather than being hard-wired, and the way they are experienced is determined by the interpretation of the situation in which one finds oneself. For example, if an individual feeling negative affect sees a lion, he would categorise and experience the emotion as "fear", thus generating an instance of fear derived from his perception of the event. In contrast, discrete emotion scholars would suggest that simply seeing the lion would activate a particular "fear circuit" in the brain. Proponents of the dimensional perspective believe that, rather than being discrete, emotions can be grouped into different dimensions. A discussion of this categorisation approach follows.

**Emotions as dimensional clusters.** Dimensional conceptualisations of affect contend that emotions can be grouped by where they lie on different dimensions, as opposed to being separate and arising from different neural processes. Researchers in this area have typically converged on a two-factor structure based on orthogonal dimensions of *valence* and *arousal* (Watson, Wiese, Vaidya & Tellegen, 1999). Valence represents the directionality of the emotion, that is, whether it is perceived as positive or negative (Watson & Tellegen, 1985) and arousal concerns how exciting or calming an emotion is (Russell, 1980). For current purposes, I consider valence and arousal but note that there are other, similar conceptualisations used by different writers. Akin to valence are *hedonic tone*, *pleasure-displeasure*, *utility*, *good-bad* (see Russell & Feldman Barrett, 1999). Scholars have developed a number of dimensional models of emotion, but two are particularly dominant (Rubin & Talarico, 2009). These are the Circumplex model (Russell, 1980) and the Positive Activation – Negative Activation (PANA) model (Watson & Tellegen, 1985).

*The Circumplex Model.* Russell's (1980) circumplex model asserts that emotions fall within a circular space between bipolar dimensions spaced 45° apart: Pleasantness (pleasure – misery), Excitement (excitement – depression), Activation (arousal – sleepiness), and Distress (distress – contentment). However, Russell believes that activation and pleasantness are the basic dimensions of affect, and the central point of his circumplex model denotes medium arousal (or activation) and neutral valence (or pleasantness). Russell (1980) argued that the circumplex model encapsulates the cognitive process that leads to affective experience. He suggested that affective experience is shaped by the meaning attributed to it, and thus cognition must precede affect.

In revisiting the model almost 20 years after Russell's original article, Russell and Feldman Barrett (1999) argued that emotion cannot be considered through the lens of one single structure. They provide an illustrative example of the difference between *prototypical emotional episodes* and *core affect*. Prototypical emotional episodes refer to what Russell and Feldman Barrett (1999: 806) call “the clearest cases of emotion”. Such an episode is a complex, correlated series of sub-events concerned with a particular object. Here we find a similarity with one of the characteristics of emotion described earlier in this chapter. Namely, that emotion is related to something. The object, in this case, is what the prototypical emotional episode is about. Prototypical emotional episodes tend to be considered in terms of discrete emotion categories such as fear, hate, and love. Russell and Feldman Barrett (1999) reviewed the different schools of thought relating to such categories. Namely, basic categories, dimensional structures, and hierarchies. Each has problems. Research into basic categories, discussed earlier, does not appear to converge on an accepted number of categories. Dimensional structures, according to Russell and Feldman Barrett (1999), represent core affect (discussed in the following paragraph) but not prototypical emotional episodes. For instance, anger, fear and disgust responses could all share the same core affect and thus fall in the same space in a circumplex structure despite being part of qualitatively different prototypical emotional episodes. Finally, the authors review the hierarchical approach to capturing emotion, whereby some emotions are considered as subordinate to others. Indeed, the hierarchical structure of emotion may be a bridge between the seemingly opposing research streams of dimensional vs. discrete emotions, as positive and negative affect (or poles of unpleasant-pleasant and

deactivation-activation, as per Russell & Feldman Barrett, 1999) are considered superordinate, followed by basic emotions. The lowest subordinate level includes emotions named after the most typical emotion of that category. Perhaps the greatest problem with the hierarchical approach is the fuzziness of the hierarchy of emotions. The categories of emotions are fuzzy, as are the different levels.

Core affect, on the other hand, need not be directed at anything and ebbs and flows over time. Russell and Feldman Barrett (1999) claimed that core affect is always present, whether as part of, or, most commonly, separate to a prototypical emotional episode. They suggested that the subjective structure of core affect (that is, how one reports core affect) is comprised of two independent dimensions: degree of pleasantness and degree of activation. An example of core affect could be waking up and feeling cheerful for no explicable reason. There is no object to which the happy feeling is attributed to. These characteristics of core affect appear to share similarities with the features of mood, described earlier in the chapter. Specifically, neither concept need be related to an object, and both are ever-present.

*The PANA Model.* Watson and Tellegen (1985) developed the PANA model based on Russell's (1980) circumplex model (Watson & Tellegen, 1985; Watson, et al., 1999). They reanalyzed seven self-report mood studies conducted previously and found that positive affect (PA) and negative affect (NA) consistently proved to be the most prominent two dimensions in orthogonal factor analyses. Furthermore, oblique factor analysis was conducted to analyse data relating to the ten discrete emotions postulated in Izard's (1977) DET, and found that PA and NA were the first two second-order factors derived from the analysis. Relating back to the consideration of the hierarchical structure of affect, this suggests that the two constructs of PA and NA may be general dimensions that are superordinate to the discrete emotions (anger, joy, fear, etc.).

When measured as traits, PA and NA have been shown to be *independent* dimensions rather than to be polar opposites (the latter view would imply they are strongly negatively correlated; Watson et al., 1988). PA relates to the extent to which a person feels alert, enthusiastic and active. High PA is a state in which people experience high energy, elevated levels of concentration and pleasurable engagement. On the other hand, low PA can be characterised as a state associated with low energy and sadness (Watson et al., 1988). Conversely, NA relates to the extent to which one

generally feels distress and unpleasurable engagement. High NA individuals are likely to feel such aversive moods, whereas those low in NA are characterised by calmness and serenity (Watson et al. 1988). Furthermore, with regards to the distribution of NA scores representing daily fluctuation of mood, studies have shown that NA responses are often positively skewed and leptokurtic, or more “peaked” than a normal distribution. Most scores clustered in a narrow range slightly below the mean (Watson et al., 1999; Zevon & Tellegen, 1982). However, Zevon and Tellegen (1982) also found that extremely elevated scores occurred regularly. This indicates that, although NA scores generally remain low in the absence of threat or danger, spikes in NA responses constitute emergency reactions to ongoing crises (Watson et al., 1999). Watson and colleagues (1999) posited that this relates to the evolutionary significance of NA and PA, in that they each reflect an evolutionary-based motivation system. Specifically, NA relates to withdrawal-tendency and PA to a goal-directed approach system. These are the components of *state* affect; what people feel in the present moment. The PANA model can also be used to assess *trait* affect, the stable, underlying tendency an individual has to experience either positive or negative emotional states (Watson & Clark, 1984). Trait positive affect (TPA) and trait negative affect (TNA) correlate with their state counterparts (Watson & Clark, 1984). Therefore, people who are high in TNA are more likely to experience negative affective states (Watson & Clark, 1984). Trait affect not only relates to the likelihood of feeling negative emotional states, it also influences how individuals perceive themselves and the world around them (Watson & Clark, 1984).

With regards to how emotions are experienced, a point related to the previous paragraph, I take an interpretive approach as per Ashforth and Humphrey (1995) in their exploration of the role of affect in organizational settings. Ashforth and Humphrey’s (1995: 100) interpretivist perspective suggests that neither the dimensional nor discrete approaches to emotion categorisation have greater intrinsic merit than the other, rather, “the equivocality is resolved after-the-fact by a more or less arbitrary label”. Stimuli *may* cause physiological arousal at times, but the precise cause and meaning of an emotion may be ambiguous. If and when this is the case, meaning may be socially constructed. For instance, this may occur in cases of complex organizational crisis or change. As an example, in Gillespie and colleagues’ (2014) case study of organizational reintegration and trust repair after an integrity violation,

some employees felt shame for what their company had done. Yet, others were angry at the whistle-blower who brought the organization's failing to light, or at the department that was "guilty".

With this in mind, I consider both conceptual approaches to emotion in my primary research, measuring the dimensional approach to categorisation through Watson and colleagues' (1988) Positive and Negative Affect Schedule (PANAS), and discrete emotions via Izard's (1977) DES. This enabled me to determine whether previous results related to the superordinate effects of NA and PA over specific emotions would hold true in my studies and explore if and how they influence trust and its repair differently.

### **Affect and Information Processing**

As stated at the outset of this chapter, the field of psychology has long been concerned with the study of cognition. Dubbed the "cognitive revolution", this perspective grew as a response to the behaviourist tradition of the mid-1900s (Miller, 2003). Here, we see parallels to the trust literature, in which psychological and behavioural perspectives exist without much overlap. The cognitive branch of psychology has focused on understanding how people process information, exploring "the way man collects, stores, modifies, and interprets environmental information or information already stored internally" (Lachman, Lachman & Butterfield, 1979 in Phelps, 2006: 28). Although there had been a long-standing argument about the role of affect in the study of cognitions (Lazarus, 1982; Zajonc, 1984), the two tended to remain separate (Phelps, 2006). However, recent evidence from neuroscience acknowledged that affect and cognition should not be separated. Rather, they are intertwined (Izard, 2009; Pessoa, 2008; Phelps, 2006), and the classical division between the study of the two may be unrealistic. Indeed, in finding that several the textbook phenomena found in cognitive psychology either did not occur or occurred weakly when participants were feeling sad, Clore and Huntsinger (2007: 398) noted that "the cognitive revolution had an emotional trigger". With this being the case, I now present an overview of a theory pertaining to the role of emotion in information processing.

### Feelings-as-Information

Feelings-as-information theory posits that mood, emotions, and bodily reactions can inform judgement (Schwarz, 2012; Schwarz & Clore, 1983). Early work into this area considered mood states (mood-as-information; Schwarz & Clore, 1983), but as the literature has developed, so too has the hypothesis that the theoretical principles that underpin it could be applicable to other types of feelings, such as emotional and physiological responses (Schwarz, 2012). Feeling-as-information theory is comprised of five underpinning principles.

**The Experience Principle.** According to the experience principle, the cognitive consequences of affect are mediated by its subjective experience. Support for this principle comes from research into individual differences in the experience of emotion (Gohm & Clore, 2000). For example, in a study by Gaspar and Clore (1998), participants were split into two groups by the extent to which they usually attended to their feelings (high vs. low). Mood influenced risk judgements in the “high” condition, but not in the “low” condition. These results suggest that considering emotion-related individual differences may be important in determining how emotions are experienced, and in turn how they influence attitude formation and behaviour.

**The Information Principle.** This principle holds that emotional feelings inform affective feedback, which in turn provides guidance in judgement, information-processing, and decision-making. One of the major arguments in support of this principle comes from research by Damasio (1994) on brain-damaged patients. He found that physical damage to one’s brain resulted in a reduced capacity to experience emotions and impairment of the capacity to make decisions and pursue goal-related activities successfully. In a series of experiments, van den Bos (2003) found that when relevant information for making social justice judgements was missing, judgements tended to be formed based on the affective states that participants were in prior to making the judgements. This finding brings us to the next principle of feelings-as-information, relating to attribution.

**The Attribution Principle.** Previous research has shown that people do not tend to rely on their feelings alone when they attribute them (correctly or incorrectly) to a source other than the target of judgement (Schwartz, 2012; Schwarz & Clore, 1983). Indeed, in experiments that included misattribution manipulations, Schwarz and Clore (1983) demonstrated that when something other than the object of



judgement was made salient (the weather, or the nature of a room), the influence of mood on the object of judgement disappeared. Such mood-attribution findings have been replicated a number of times (e.g. Clore & Huntsinger, 2007; Keltner, Locke & Audrain, 1993; Schwarz, Servay & Kumpf, 1985). On the other hand, Clore and Huntsinger (2007:394) note that “without a salient cause, affect tends to be promiscuous, attaching itself to whatever is available, which is why moods can influence even irrelevant judgements”. That is not to say that mood states only influence inconsequential judgements. For instance, Hirshleifer and Shumway (2003) observed that the weather had an influence on stock market returns. Specifically, the market went up when the sun was shining in the city that hosts the country’s stock exchange. This implies that the positive mood associated with good weather may make investors feel more optimistic about the future of the economy. Hirshleifer and Shumway’s (2003) analyses took place during the period spanning from 1982 to 1997. In the United States, recession bit in 1982, but by 1983 the economy had stabilised and a period of prosperity ensued, particularly with regards to the financial markets. This culminated in the economic boom of the 1990s. In this respect, the period of analysis covered generally prosperous times for investors. In other words, the investment environment was generally benign. The influence of positive and negative affect in cognitive processing is discussed further in relation to the Immediacy Principle, below.

Here, we see both sides of the issue. When feelings are attributed to something other than the target of judgements, their influence on the judgement is minimal. However, if feelings cannot be attributable to a salient cause, they may influence judgement. In both cases, the actual informational value of the feelings may not be particularly high. Although these results indicate that affect does not always influence judgement, they also suggest that there are times that it does.

**The Immediacy Principle.** This principle states that feelings are usually caused by current mental content (Clore, Gasper & Garvin, 2001). In this principle, we find the link between affect and motivation, which is unsurprising given that emotions form an evolutionary alarm system that facilitates coping with threats and opportunities in the environment (Clore et al., 2001; Kish-Gephart et al., 2009). Positive affect indicates that all is well and that the environment is benign. Conversely, negative affect signals that something is wrong and needs to be rectified (Bagozzi, Gopinath & Nyer, 1999; Clore & Huntsinger, 2009; Fu, Uy & Baron, 2009). Put

differently, positive affect provides a “go” sign, and negative affect provides a “stop” sign (Clore & Huntsinger, 2009). Fu et al. (2009) provided empirical support for this principle. The authors conducted research on how feelings influences effort in entrepreneurs. Their results indicated that negative affect increased effort on venture tasks that required immediate effort, and positive affect increased effort on tasks beyond what is immediately required. Fu and colleagues (2009) found that negative affect also influenced effort on tasks beyond what is immediately required, suggesting that entrepreneurs may take precautionary measures to prevent future damage to their ventures.

**The Episodic Constraint Principle.** The final of the five underpinning principles of feelings-as-information contends that affective feelings should have similar effects as primed concepts. That is, when the sources of affective feelings are obscure, as is the case in the experimental priming of concepts, their potential meaning should be similarly constrained. Thus, the resulting affective feelings should be experienced as reactions to whatever is in focus at the time.

**The role of specific emotions in information processing.** Many of the principles that apply to mood also apply to specific emotions in information processing (Clore et al., 2001; Clore & Huntsinger, 2007; 2009). However, whereas mood states are prone to be misattributed because they are not generally attached to an object, misattribution is less likely to occur to emotions because they are already situated (Clore & Huntsinger, 2009; Schwarz, 2010). There are fewer inferences to make regarding emotional responses because they indicate that an appraisal has taken place. For instance, one is angry *at* someone, sad *about* something, yet *in* a bad mood.

To summarise, feelings-as-information is a framework that could be used to understand how affect influences the way in which we process information. This could relate to trust in a number of ways. Firstly, the link between motivation and affect, a component of the Immediacy Principle, should prove to be relevant to the process perspective of trust. Specifically, in demonstrating a willingness to be vulnerable (the trusting decision) and actual vulnerability (the trusting action), one implicitly and then explicitly demonstrates motivation. Conversely, the belief stage of the trust process, relating to perceptions of trustworthiness, does not necessarily have a motivational quality, as it does not require the trustor to *do* anything with that information. In this respect, I would presume that mood and emotion would play a greater role in the

decision and action stages of the trust process than the belief stage, which would have implications as to how trust is measured. Secondly, feelings-as-information theory implies that when people have sufficient information available about the target object of interest, they will be less likely to rely on their feelings than in situations when information is missing (see van den Bos, 2003). Therefore, the more salient an object, and the greater information available about it, the less likely that one would use their mood state as a source of information. However, if the target object is salient and is deemed to be the cause of a specific emotion (i.e. is deemed to be attributable), then specific emotions may be influential in processing information about the object. Relating this to trust repair, mood states may prove to be influential in trust repair in experimental scenarios where the object of judgement (or trust, in this case) is not salient and participants have little available prior knowledge or information about it, prompting them to ask: “how do I feel about this?” as a means to make a judgement. On the other hand, specific emotions may be more influential in personally relevant situations in which individuals have some prior knowledge from external sources. Finally, the Experience Principle indicates that emotion-related individual differences are influential in affect’s role in information processing. As such, trait measures relating to affective experience and intensity should be included in any empirical use of the framework in trust repair studies.

### **Chapter Summary**

This chapter proceeded with definitions of emotions and mood, before discussing the two prevailing perspectives of how emotions are categorised. Rather than choosing one perspective over another, I elected to take a middle ground and consider both the dimensional and discrete perspectives of emotion in this research programme. Furthermore, I follow the interpretive approach as per Ashforth and Humphrey (1995) relating to how emotions are experienced, taking the perspective that it is the interpretation of an emotion-eliciting event and subsequent emotional response that is important, rather than the semantics of whether the response is biologically hard-wired or socially constructed.

A discussion on how affect can influence information processing followed. The feeling-as-information framework has received compelling empirical support for the assertions that mood states and specific emotions can indeed influence judgement.

Moreover, both affect and trust contain strong motivational elements, indicating a link between the constructs that should be investigated further.

Chapter 5 assimilates the research gaps found in the literature review chapters into research questions and provides a methodological rationale and outline for my series of studies.

## **Chapter 5: Research Questions and Methodological Rationale**

### **Research Questions**

A review of the extant trust and trust repair literatures identified some research gaps which this thesis aimed to address. Primarily these gaps relate to three distinct areas. Firstly, my review of the trust repair literature in Chapter 3 showed that while there were a small number of articles that did consider affect as central in the process of trust repair (five of 42 to be precise, only three of which were empirical), each had problems. For the empirical papers, these problems tended to concern the measurement of affect, trust, or both. Moreover, as discussed in Chapter 4, work into feelings-as-information suggests that mood and emotion can influence how we make social judgements, indicating that they may be salient in the study of trust and trust repair

Secondly, returning to Chapter 2, there is scant research into the effects of individual differences on trust, other than the consideration of propensity to trust. Two studies have considered regulatory focus theory and its relationship with generalised trust, but nothing has been considered in relation to trust repair. Regarding trust repair, I was unable to find a single empirical paper that included any individual difference measures. In addition, the experience principle of feelings-as-information theory posits that emotion-related individual differences will influence whether and how affect influences judgement.

Finally, my chosen conceptualisation of trust is that it is a process consisting of belief, decision, and action. The process perspective of trust has received scant empirical attention. Although my review of the trust repair literature suggested that several papers did implicitly measure all three stages of the trust repair process, this was not explicitly acknowledged. Certainly, no article attempted to determine whether the three stages of the process form an integrated, empirically supported model. Based on these gaps, I developed a suite of studies that aimed to answer the following research questions:

Research question 1: Do emotions and mood predict change in trust after a trust failure, controlling for evaluations of trustworthiness?

Research question 2: Does regulatory focus affect trust or interact with emotions?

Research question 3: Do emotion-related individual differences affect trust or interact with emotions?

Research question 4: Do belief, decision, and action processes of trust form a coherent model?

Research question 5: Are emotions central to an integrated model that predicts distrusting acts?

Three empirical studies were conducted to explore the research questions posed above. All used stimuli from real-world incidents of organization-level trust failures. **Table 5.1** compares the three studies, showing the characteristics of each and which key elements were explored, and demonstrating the progression of knowledge generation. Foreshadowing results, Study 1 was an experiment, had a small sample size, and only considered mood and a small number of individual difference measures to first ascertain whether such processes had any influence at all on perceptions of organizational trustworthiness and willingness to trust in an organization given a scenario that would not have been personally salient to participants. Results indicated that these processes may indeed be pertinent in Study 1's trust repair context. Thus Study 2, also an experiment, was conducted using the same stimuli, a larger sample, and the inclusion of specific emotions and additional individual difference variables (emotional reactivity and private body consciousness (PBC); a proxy for embodied cognition). The rationale for using the same stimuli as in Study 1 was to ascertain whether results would replicate in a different, larger sample. Some did, some did not, but the added element of specific emotions did appear to be influential in the decision to trust. Study 3 used different stimuli, and while one aim was to replicate the results of the previous two studies in relation to emotion and individual differences, the extension involved the measurement of the behavioural element of distrust in a personally relevant situation (car ownership). Study 3 had an experimental manipulation and a survey component.

**Table 5.1 - The Key Process Elements and Characteristics of Studies 1, 2, and 3**

Study	Key Elements Measured			Study Characteristics			
	Mood	Specific Emotions	Individual Differences	Process Elements	Violation Type	Personal Relevance?	Design
One	X		X	B, D	Ability	No	Experiment (N = 82)
Two	X	X	X	B, D	Ability	No	Experiment (N = 253)
Three	X	X	X	B, D, A	Integrity	Yes	Cross-sectional design with experimental element. (N = 135)

*Note.* B = Belief stage of trust process, D = Decision stage of trust process, A = Action stage of trust process. Personal relevance = Whether the scenario was personally relevant to the study's participants. Mood = Measurement of *positive affect* and *negative affect*. Specific Emotions = Measurement of anger, fear, sadness, contempt, joy, and calmness.

In the following section, I provide a rationale as to why I chose to use an experimental design for Studies 1 and 2, and follow them with a cross-sectional survey for Study 3.

### Methodological Rationale

Here, I present an overview of the experimental method and discuss its merits and disadvantages, before exploring its suitability for the current research programme. I follow this with an explanation of the nature of internet-based, crowdsourcing marketplaces that allow researchers to recruit participants to take part in experimental research. I utilise such a marketplace in each of my studies, so I present some of the arguments for and against their use in psychological and sociological research compared to more traditional data collection methods before reviewing their use in previous studies.

### The Experimental Method

Kerlinger (1986, in Griffin & Kacmar, 1991: 302) defined a laboratory experiment as “a research study in which the variance of all or nearly all of the

influential independent variables not pertinent to the immediate problem of the investigation is kept to a minimum.”

Although the experimental method has been a staple of psychology since the birth of the discipline, there have always been arguments regarding its merit. Critics cite the lack of generalisability to other situations and difficulty in replicating results, as well as the artificial nature of the setting and the knowledge that participants are almost always aware that they are being observed. Perhaps the most often quoted argument against the experiment relates to doubts over external validity (Epstein, 1979; 1980; Pruitt & Kimmel, 1977). According to Campbell and Stanley (1963: 5), “external validity asks the question of generalizability: to what populations, settings, treatment settings and measurement settings can this effect be generalized?”

In other words, some scholars have reservations regarding the generalisability of experimental results to “real world” settings, and thus the ability to replicate results outside of the laboratory setting. Epstein (1980: 796) asserts that “there is no more fundamental requirement in science than that the replicability of findings be established”, yet claims “the very nature of the paradigm of the single-session experiment is such that very few findings, no matter what their level of statistical significance, are apt to be replicable” (p. 790). A contentious issue in the social sciences that is related to both replicability and generalisability is the preponderance of the use of undergraduate student participants in experimental research. Critics suggest that research conducted with student samples is not representative of the general population, and is therefore not generalizable to other situations (Bello, Leung, Radenbaugh, Tung & van Witteloostuijn, 2009; Lucas, 2003; Sears, 1986). Sears (1986) argued that the predominance of student sample-based research in the social sciences has led to a bias in “what is known” about human behaviour, as students tend to have higher levels of cognitive ability, more compliant behaviour and less crystallised attitudes than older adults.

On the other hand, there are arguments that this lack of generalisability is not always a concern. An example of this is when the research focus is on basic psychological processes or theory building linked to human behaviour, independent of sample characteristics (Bello et al., 2009; Lucas, 2003; Mook, 1983). Berkowitz and Donnertstein (1982) claimed that the meaning assigned to the situation that participants are in and their behavioural responses to it are of greater import to the



generalisability of an experiment's outcome than the sample's representativeness. In addition, there are some cases in which the use of a student sample may be representative in that they represent a population of interest. For instance, business students, in theory, should go on to be leaders or followers of the future in organizational environments. Therefore, they may be appropriate subjects for studies relating to management and leadership (Ahmed, Chung & Eichenseher, 2003; Kirkpatrick & Locke, 1996; Ng & Burke, 2010).

Regarding generalisation, Levitt and List (2007) developed a theoretical model that illustrates three things that cause pro-social behaviour to differ significantly between experimental and field settings, these are stakes, social norms and scrutiny. Stakes relate to the monetary (or other credit-based) rewards participants receive for completing a task. In the laboratory, participants "play" with the money they receive, whereas in the field the money is earned in some way or another (Benz & Meier, 2008). In this respect, entitlement may play some role, as demonstrated in a study by Cherry, Frykblom and Shogren (2002) that showed that it mattered whether money in a dictator game was earned by completing a task or whether it was distributed randomly to participants. Social norms may be triggered differently in an experimental setting than in the field because the laboratory lacks the real-life context that may be required for certain behaviours to occur (Bardsley, 2005). Finally, participants in experiments may alter their behaviours because they think that they are expected to behave a certain way or want to please the experimenter. This is the scrutiny component of the Levitt and List (2007) model. Equally, social desirability bias may be an issue, particularly in experiments that are not anonymous. For example, someone who is not particularly generous in a field setting may exhibit greater displays of generosity in an experiment because he may think that he will be perceived in a more positive light by the experimenter or others involved in the process by doing so.

Although there may be drawbacks to the experimental method, it does have its advantages. A major strength of the experiment is the control it allows the researcher; extraneous conditions and variables can be controlled and independent variables can be manipulated in a way that is not possible in field research. Furthermore, by randomly assigning which units receive which treatment, and to what extent, the investigator can bypass the "unmeasured variables problem". According to James (1980 in Colquitt, 2008: 616) this problem concerns unmeasured variables that are

either “correlated with a presumed cause or predictive of the presumed effect”. Random assignment by the roll of a die, use of a random number generator, or any other such method of randomisation, eliminates the possibility of an unmeasured variable being meaningfully correlated to an independent variable. By its very nature, randomisation ensures that no pattern can emerge, thus minimising the possibility of correlation between an independent variable and an unmeasured variable (Colquitt, 2008). With regards to the second point, by controlling the levels of the independent variable the researcher is able to rule out the possibility that the outcome actually causes the predictor in a given study.

Furthermore, whilst the sheer volume of fieldwork in areas such as leadership, performance appraisal and goal-setting suggests that it is relatively straight-forward to conduct field research in those realms, there are some concepts that, usually due to matters of sensitivity, are very difficult to study in the field. Indeed, organizational trust repair is one such concept, as noted by Gillespie and Dietz (2009).

The previous section of this chapter outlined some of the advantages and disadvantages of the experimental method. Whilst there are some justifiable concerns over the use of this method, it is a good fit for the type of research conducted in this thesis. Hence, the experiment was chosen as a relevant method for Studies 1 and 2 for three primary reasons. Firstly, the first research question that this thesis explores, relating to the role of affect in trust repair, is deliberately broad, and the results of Study 1 inform Study 2. For this, the experiment is preferable to a field study because the independent variables of interest can be controlled and isolated.

Secondly, the very nature of trust repair research makes it difficult to study in the field, hence the preponderance of experimental and case-based studies in the literature, as evidenced by my review in Chapter 3. It is unlikely that organizations would be willing to allow scholars to conduct field research with them in the immediate aftermath of a scandal or transgression due to the possibility of negative feedback from stakeholders and potential reputational damage. Therefore, studying the effects of emotion during a “live” trust repair process will be very difficult in a field setting. To illustrate this issue, although recently Gillespie and colleagues (2014) conducted a case study that focused on trust repair and organisational reintegration, there were several unique aspects to getting access to the field setting. The study involved interviews with employees of a British utilities firm involved in a dispute

with the industry regulator which led to the company being fined over £37 million. However, the interviews were granted by a board of directors that was not in place during the period in which the transgressions took place; they were “once removed” from the wrongdoing. Furthermore, over three years had passed between the occurrence of the transgressions and the interviews taking place, during which time the company had already managed to rebuild its reputation and improve performance.

When considering affect, such a case-based method would not be appropriate because individuals would have to attempt to recall what their emotions and moods were like after the event. Johnson, Tolentino, Rodopman and Cho (2010) suggest that attempting to accurately assess one’s state mood, that is, their mood at that moment in time, may be difficult due to the conscious self-awareness and inductive reasoning required. Past emotionally charged events that are salient to those who experienced them are sometimes (Bohannon, 1988; Brown & Kulik, 1977), but not always (McClosky, Wible & Cohen, 1988) recalled more accurately than less significant events. However, some studies have suggested that people tend not to recall previous emotional events accurately (Brewer, 1988; Thomas & Diener, 1990). Current attitudes and appraisals may also play major role in how memories of emotional responses are recalled (Holland & Kensinger, 2010; Levine, 1997; Pattershall, Eidelman & Beike, 2012). Taking this into account, the ability to measure mood and emotion at the time a particular event occurs would be preferable in terms of ascertaining accurate indications of what a person is feeling at the time, which in turn will present us with a greater idea of how affect relates to other variables such as trust and trustworthiness. It is possible to do this with an experiment.

Finally, and related to the previous point, causality can be assessed with an experimental design. In contrast, causal direction is generally difficult to establish and ambiguous in other types of designs such as cross-sectional surveys. However, that is not to say that cross-sectional research lacks merit.

### **Cross-Sectional Research: Study 3**

Studies 1 and 2 were comprised of entirely experimental designs, measured over three time-points. Study 3 used a cross-sectional design in order to explore the correlations between attitudes, affect, and behaviour in a sample personally affected by a particular organizational failure. Cross-sectional research designs have been

criticised because they do not allow us to draw confident causal conclusions and common method bias may inflate the observed correlations between variables (Lindell & Whitney, 2001; Podsakoff, MacKenzie, Lee & Podsakoff, 2003; Spector, 1994). However, the cross-sectional approach is still one of the most commonly used designs in organizational behaviour research, and can be useful in helping us understand the intercorrelations between various feelings and perceptions (Spector, 1994). Indeed, cross-sectional research can be very useful as part of a suite of studies, as is the case in this thesis. Undertaking experiments to provide first tests of hypotheses and following them up with the more uncontrolled conditions of the field can help demonstrate the robustness of findings (Rietzchel et al., 2017). As stated in Chapter 3, very few of the trust repair articles reviewed contain both experimental and field data. That my studies do is a strength of their design. Regarding the potential issue of common method variance in Study 3, although this is discussed in further detail in Chapter 8, statistical tests suggest that it was not of great concern.

### **Crowdsourcing to Collect Data**

All data for Studies 1 and 2, and the bulk of the data for Study 3, were collected using a UK-based crowdsourcing marketplace called Prolific Academic. This source is described on the Prolific Academic website ([www.prolific.ac](http://www.prolific.ac)) as “the world's largest crowdsourcing community of people who love science. Researchers post studies and recruit the right participants fast. Participants earn rewards while helping to advance human knowledge.”

As stated previously in this chapter, student samples are often used in experimental research. They are often called “convenience samples”, but recruiting them in a UK research institution is not particularly convenient. In other countries, such as the United States, it is possible for academics to offer course credit to students in return for their participation in a research programme. This practice is not possible in the United Kingdom; hence it can be difficult to recruit students to take part in experiments. A possible solution to the issue of recruiting participants presents itself in the form of utilising online crowdsourcing marketplaces. Such marketplaces consist of a pool of participants willing to take part in tasks for money. A particularly prominent platform is Amazon Mechanical Turk (MTurk), but it is currently not available for use by those outside of the United States. Prolific Academic is a UK-

based alternative, which, as of May 2016, had over 33,000 members in its participant pool. At this point, just two papers had been published using samples from the platform (Woods, Michel & Spence, 2016; Woods, Velasco, Levitan, Wan & Spence, 2015), though this may not be surprising given Prolific Academic only commenced operations in 2014.

More generally, crowdsourcing as a means to recruit participants is relatively new, though it is becoming more commonplace. To illustrate this point, entering a search term of “Mechanical Turk” in the Psychology sub-field of Web of Science produces 437 papers. The earliest was published in 2010, a year in which two articles using MTurk data appear. Seven papers were published in 2011, 28 in 2012, 57 in 2013, 108 in 2014, 167 in 2015, and 62 in 2016, as of May. MTurk data have been used in papers that have appeared in top ranking management journals such as *Academy of Management Journal*, *Leadership Quarterly*, *Personnel Psychology*, *Management Science*, and *Organizational Behavior and Human Decision Processes*. Thus, it is evident that the use of crowdsourcing platforms to facilitate academic research is growing and has been accepted as a valid by some of the most prestigious journals in the field of management.

### **Is Crowdsourcing Reliable?**

The advent and subsequent growth of the internet has afforded academics new and varied means to collect data. In the past, researchers were relatively restricted by the logistics of either getting participants to a laboratory or the expense of sending paper surveys overseas. Now, due to the proliferation of web-enabled portable devices, it is possible to reach people from all walks of life via a variety of platforms with a few clicks of a mouse. Online surveys can be sent to the other side of the world for the same price (the subscription to piece of survey-building software) as to someone a mile away. However, concerns have been raised in the academic community regarding the use of the internet to collect data. Most of these doubts relate to uncertainty as to whether these data collection methods yield reliable results compared to traditional measures (Casler, Bickel & Hackett, 2013). One early concern was that the make-up of internet users was not representative of the general population in that internet participants were more mal-adjusted than traditional participants (Kraut, Patterson, Lundmark, Kiesler, Mukophadhyay & Scherlis, 1998). However, this claim has been

refuted (Gosling, Vazire, Srivastava & John, 2004). Others questioned whether participants sourced online would be less motivated than those sourced by traditional means (Gosling et al., 2004), and if the anonymity of the internet would negatively affect responses (Gosling et al., 2004). There seems to be little evidence to support these concerns, with research suggesting that internet-based participants are no less motivated than their traditionally-sourced counterparts, and if anything, the anonymity provided by the internet appears to be a benefit rather than a hindrance (Gosling et al., 2004). Returning to a point made earlier about the problems of social desirability bias and the possibility that participants may adapt their behaviour to please the researcher in an experiment, anonymity may be beneficial in reducing such issues (Gosling et al., 2004; Gosling & Mason, 2015). Finally, Germine, Nakayama, Duchaine, Chabris, Chatterjee, and Wilmer (2012) were able to successfully replicate five traditionally laboratory-based experiments using online samples. The experiments were selected as it was thought that they would be susceptible to issues such as lapses in attention by participants and “satisficing” (see Oppenheimer, Meyvis & Davidenko, 2009), but this was not the case. Germine et al. (2012: 84) concluded that “web samples need not involve a trade-off between participant numbers and data quality”.

The advantages of platforms like MTurk and Prolific Academic over traditional data gathering methods primarily relate to the low cost of recruiting participants and the speed at which data can be gathered (Behrend, Sharek, Meade & Wiebe, 2011; Berinsky, Huber & Lenz, 2012; Buhrmester, Kwang & Gosling, 2011), as well as the possible solution to the issue of a limited participant pool (Gosling, Sandy, John & Potter, 2010). A number of studies have been conducted to test the validity of MTurk as a means of gathering quality data compared to student or other online samples. The demographic characteristics of MTurk respondents have been found to be more ethnically and socio-economically diverse than those of undergraduate university students, as well as being older and more experienced (Behrend et al., 2011; Berinsky et al., 2012; Buhrmester et al., 2011; Casler et al., 2013). The extent to which the platform is more diverse than other internet samples is not so clear. Berinsky et al. (2012) found that their MTurk sample was less representative of the general population than Internet-based panel samples or national probability samples, but Buhrmester and colleagues (2011) reported that their MTurk sample was slightly more diverse than the standard internet sample. With regards to

reliability, crowdsourcing samples have been shown to behave similarly to student participant pool samples (Behrend et al., 2012; Paolacci, Chandler & Ipeirotis, 2010; Sprouse, 2011). Furthermore, prior research has demonstrated that data obtained via MTurk were at least as reliable as those gathered in a large-scale Internet-based sample (Buhrmester et al., 2011) or a student sample (Paolacci et al., 2010).

The major concerns about collecting data via crowdsourcing relate to the inability of the researcher or an assistant to oversee the experiment and the possibility of participants taking part in a study more than once or taking part in many similar studies and becoming overly familiar to popular experimental methods or questionnaires used by researchers. The lack of an experimenter's presence may be problematic in that there is no way to answer any queries that participants may have during the experiment. Equally, it is not possible to ensure that participants are following instructions correctly. Rather disconcertingly, when they asked MTurk workers what they were doing when completing a study, Chandler and colleagues (2014) found that 18% of respondents were watching television, 14% were listening to music and 6% were communicating with others online. Catch trials are a possible solution to the issue of lack of attention or motivation. Oppenheimer et al. (2009) explicitly asked participants to click a small circle at the bottom of the screen upon the completion of two classic studies, rather than any of the nine response buttons that made up a scale running through the centre of the screen. In the Oppenheimer et al (2009) study, which was conducted in lab, a disquieting 46% of participants failed the catch trial. Only when these participants were excluded from the analysis were the two classic studies replicated. Another, less deceptive, approach is offered by Crump, McDonnell and Gureckis (2013). The authors suggest that inserting a set of questions directly after the instructional brief designed to quiz participants on the nature of the study is an effective way of ensuring they pay attention. If any questions are answered incorrectly, participants are asked to re-read the brief. This continues in a loop as long as any of the questions are answered incorrectly. Crump et al. (2013) found that this approach led to closer replication of a classic study compared to an earlier study in which there was no such intervention.

Regarding the issue of repeat participation, Prolific Academic guards against this with a number of measures. Firstly, it requires participants to sign in with a Facebook account and verify their email address to deal with authentication and to stop

participants taking studies multiple times. Moreover, each participant receives a unique identifier code, has their IP address tracked, and must register a valid PayPal account. Therefore, while it may be possible for participants to set up second accounts, it is not easy to do. It is also possible to only invite participants who have taken part in a previous study to take part in a follow-up, making longitudinal studies possible. Conversely, the reverse is true; participants who took part in previous studies can be excluded from participating in future studies, ensuring unique participants can be recruited throughout a research programme. In addition, participants can be pre-screened via several demographic characteristics such as age, sex, nationality, first language, country of residence, employment status and student status, enabling a great deal of flexibility regarding tapping into different sub-samples. Such flexible pre-screening is not possible with MTurk samples, which can lead to issues with data reliability (Smith, Roster, Golden & Albaum, 2016).

In summary, previous research suggests that crowdsourcing can be a viable, valid data collection tool that enables researchers to collect data quickly and inexpensively. Data quality has been shown to be acceptable when compared to more “traditional” collection methods, with many prior lab-based experiments being successfully replicated using this method and crowdsourced data appearing in some of the top management journals. As with any experimental study, a solid research design is imperative, and there are a number of ways to pre-screen participants that can help improve data quality. Finally, the ability to recruit a more diverse range of participants is a clear advantage over the average laboratory study conducted with undergraduate students.

### **Chapter Summary**

This chapter presented my research questions based on the gaps in the literature outlined in Chapters 2 and 3 and briefly outline a suite of three studies that aimed to explore these questions. It then provided a rationale for my chosen research designs and data collection methods. The following chapters (Chapter 6, Chapter 7, and Chapter 8) contain the thesis’ primary research.



## **Chapter 6: Study 1 – Mood and Individual Differences in Trust Repair**

The purpose of this study was to determine whether trust repair had a significant effect (compared to a non-trust-repair condition) in a particular experimental scenario, and if so, whether participants' affective state had any influence on perceptions of trustworthiness in an organization and the level of trust placed in it.

### **Repairing Trust and Trustworthiness**

As explained in Chapter 3, there is a body of research that shows that organizational efforts to repair trust after it has been breached can work (Bottom et al., 2002; Desmet et al., 2011; Kim et al., 2004; Lewicki & Bunker, 1996; Mishra, 1996). Several experimental studies (Dirks et al., 2011; Ferrin et al., 2007; Kim et al., 2013; Schniter et al., 2013) and field studies (Andiappan & Treviño, 2010; Chen et al., 2013; Gillespie et al., 2014; Webber & Bishop, 2012) have suggested this to be the case. Previous experimental research suggests that participants who observe an effective trust repair condition perceive greater trustworthiness (Ferrin et al., 2007; Nakayachi & Watabe, 2005) and elicit more trust in the wrongdoer (Schweitzer et al., 2006) than those who either observe no repair condition at all or an inferior response.

Thus, one goal of the current study was to design a new experiment that presented participants with a realistic scenario in which their trust is violated. Following an earlier data collection of relevant individual difference measures, an experimental manipulation was made in which half of the participants received a trust repair response and the other half did not. More specifically, all participants viewed a TV news report of a National Express coach crash in which two people died and many more were seriously injured. This is the *trust failure stimulus*. The *trust repair manipulation* consisted of presenting to half of the study participants (i.e., treatment group) the response that the organization's CEO actually made in a televised interview. This is classified as a trust repair response. The control group saw a filler video. For all study participants, willingness to trust and perceptions of trustworthiness were measured at three time points: pre-trust-failure (Time 1), immediately post-trust-failure (Time 2) and post-repair-response manipulation (Time 3). Time 1 measurements provided a baseline of initial willingness to trust and trustworthiness against which changes at Times 2 and 3 could be assessed. Based on the previous literature, the following two hypotheses were advanced.

Hypothesis 1: There will be a decrease in (a) willingness to trust in the organization and (b) perceived organizational trustworthiness, immediately following the trust violation, as indicated by the change in responses from Time 1 to Time 2.

Hypothesis 2: Compared to participants who do not receive a trust repair response, those who receive the trust repair response will show a greater recovery in levels of (a) willingness to trust in the organization and (b) perceived organizational trustworthiness, as indicated by the change in responses from Time 2 to Time 3.

### **Trust Repair and Affect**

As stated in Chapter 3, although there have been calls for further investigation of the role of affect in the trust repair process (Dunn & Schweitzer, 2005; Fulmer & Gelfand; Schweitzer, Hershey & Bradlow, 2006; Tomlinson & Mayer, 2009), there has been little progress to this end within the research community. Some experiments have used trust games in which participants are presented with different computer-generated facial stimuli (e.g., an angry face, a smiling face, etc.) and asked how much they would be willing to give their “partner” (Campellone & King, 2013; Kausel & Connolly, 2014). However, these experiments do not focus on the emotional state of the participant, rather they demonstrate how emotions displayed by another influences the participants’ behaviour. Dunn and Schweitzer (2005) demonstrated a robust relationship between normatively irrelevant, incidental emotions and trust across five studies and suggested that their research be expanded to other areas of trust research, including trust repair. They suggest that a trust violation may cause the trustor to feel negative emotions such as anger, and mitigating such emotions may help the trustee regain trust.

In the current study, I included measures of both trait and state positive and negative affect (TPA, TNA, PA, and NA, respectively), to determine their relationships with trust and perceived organizational trustworthiness. Based on the overview of trait and state affect provided in Chapter 4, in the present study those with high TNA may be more likely to blame National Express for the accident and subsequently may be less likely to perceive them as trustworthy. Conversely, high-TPA individuals may be less likely to blame the organization.

In relation to state affect, Bagozzi et al. (1999) suggest that the current dominant emotional state one is experiencing influences the way in which information is processed. Specifically, if one is experiencing a positive emotional state, he is likely to use a top-down information processing system and pay little attention to details as positive affect signals a benign environment. Conversely, if one is in a negative emotional state, he is likely to use a bottom-up processing approach and be more reflective and deliberate of the situation. The type of information processing system used is likely to influence how trustworthy National Express is perceived to be, and potentially how willing individuals are to trust company. Thus:

Hypothesis 3: Positive trait affect will relate positively to (a) willingness to trust and (b) perceived organizational trustworthiness, and negative trait affect will relate negatively to (a) willingness to trust and (b) perceived organizational trustworthiness.

Hypothesis 4: Positive state affect will positively relate to (a) willingness to trust and (b) perceived organizational trustworthiness, and negative state affect will relate negatively to (a) willingness to trust and (b) perceived organizational trustworthiness.

### **Explicit and Implicit Affect**

Organizational researchers have traditionally assumed that attitudes, beliefs and behaviours are processes that are conscious enough to be measured accurately, using explicit measures such as self-report surveys (Uhlmann, Leavitt, Menges, Koopman, Howe & Johnson, 2012). However, social and cognitive psychologists have demonstrated that many behaviours result from processes that occur with limited cognitive control and sometimes outside the realm of conscious thought (for a review, see Dijksterhuis & Bargh, 2001). Such *implicit processes* are spontaneous and unintentional, and are therefore difficult for participants to accurately self-report. However, implicit processes are also useful to researchers when they can be used to construct measurement procedures that bypass some of the cognitive biases associated with explicit self-report measures, such as the influence of social desirability and evaluation apprehension (Uhlmann et al., 2012). Furthermore, explicit processing

requires significant attention and motivation to function effectively (Moors & De Houwe, 2006, Johnson et al., 2010). A great deal of introspection and deductive reasoning are required when measuring affect explicitly, for example, by asking someone to give a mood rating regarding the extent to which they agree with statements such as “I am happy” or “I am proud” using a scale format (Strack & Deutsch, 2004). These efforts may interfere with participants’ ability to give an accurate appraisal of their current state (Johnson et al., 2010).

The distinction and advantages of implicit versus explicit measures is relevant to the current study because it requires the measurement of participants’ state and trait affect. Discrete emotions may be easier to measure explicitly due to their salient and acute nature (Weiss, 2002). However, by utilising a word-stem completion measure to assess implicit trait affect, and the PANAS measure (Waston et al., 1988) to assess explicit trait affect, Johnson et al. (2010) demonstrated that the implicit measure complemented the explicit one. In their study, both the implicit and explicit measures were reliable in finding that positive affect was positively related to task performance and citizenship behaviour, and negative affect was negatively related to task performance and positively related to counterproductive behaviour.

I expect that the utilisation of an implicit measure of affect will help guard against social desirability responding that may be caused by the use of an explicit measure alone.

Hypothesis 5: Positive implicit affect will relate positively to (a) willingness to trust and (b) perceived organizational trustworthiness, and negative implicit affect will relate negatively to (a) willingness to trust and (b) perceived organizational trustworthiness even when effects of explicit affect measures are controlled.

### **Emotional Sensitivity**

Emotional sensitivity refers to “*skill in receiving and interpreting the nonverbal or emotional expressions of others*” (Riggio & Reichard, 2008: 171). It is an emotion-related individual difference. According to feelings-as-information theory, emotion-related individual differences are likely to influence how and to what extent affect influences judgement.

In a leadership context, emotional sensitivity was first classified as leader empathy (Bass, 1960). Emotional sensitivity allows one to gauge the emotional tone of a situation, and may be heightened during times of crisis (Riggio & Reichard, 2008). Recently, organizational scholars have demonstrated an increased interest in emotional sensitivity. Rubin, Munz and Bommer (2005) termed it *emotional recognition*, and found that emotional recognition ability, along with personality characteristics, predicted transformational leadership behaviours. Bommer, Pesta and Storrud-Barnes (2011) explored the relationship between emotional recognition and assessment centre performance, controlling for general mental ability and conscientiousness. They found that emotional recognition predicted assessment centre performance uniquely over general mental ability and conscientiousness. However, results varied by race, and although females generally had greater emotional recognition ability than males, sex was not related to assessment centre performance and it did not moderate the relationship between emotional recognition and assessment centre performance.

I believe that people who have high levels of emotional sensitivity are more likely to pick up on and be more affected by the emotional states of other people. Regarding trust repair, I expect that this will relate to how individuals perceive trust repair efforts. That is, people high in emotional sensitivity will be more able to determine the sincerity of such an effort, should it be given in person rather than in the form of a written statement. Some trust scholars suggest that sincerity is important (Gillespie & Dietz, 2009). This may be the case, but I believe that emotional sensitivity will moderate the ability of people to be able to interpret such a concept. Sincerity may be perceived differently depending on how emotionally sensitive a person is. Also, it is possible that being party to a trust repair effort may elicit an activation or trigger effect in those that are highly emotionally sensitive in that it may trigger potentially affect-laden memories of the original transgression that could influence attitudes and future behaviours. In the context of this study, I posit that emotional sensitivity will moderate the relationship between the dependent variables and affect. However, it is difficult to predict a directional relationship without knowing how participants interpret the trust repair response. Thus:

Hypothesis 6: Emotional sensitivity (measured at Time 1) will moderate the relationship between affect, willingness to trust and perceived organizational trustworthiness at Times 2 and 3.

### **Regulatory Focus**

Regulatory focus theory posits that people either focus more attention on the *promotion* of positive outcomes, or on the *prevention* of negative outcomes, in pursuit of goal attainment (Higgins, 1997). Crowe and Higgins (1997: 117) stated that “*a promotion focus is concerned with advancement, growth, and accomplishment, whereas a prevention focus is concerned with security, safety and responsibility*”. Regulatory focus theory has received increasing attention in organizational psychology (Lanaj, Chan & Johnson, 2012), and has been found to influence attitudes and behaviours in the realms of ethics (Gino & Margolis, 2011), decision-making (Crowe & Higgins, 1997), negotiations (Appelt & Higgins, 2010), product purchasing (Pham & Chang, 2010), and, as discussed in Chapter 2, trust (Keller et al., 2014; Wirtz & Lwin, 2009). In a meta-analysis, Lanaj et al. (2012) found that regulatory focus theory variables have relevant relationships with work outcomes and are not made redundant by other individual difference variables.

In the context of this study, I am particularly interested in how one’s regulatory focus, i.e., whether one primarily holds a promotion or prevention focus, influences perceived organizational trustworthiness and willingness to trust, and how regulatory focus interacts with affect. Gino & Margolis (2011) showed that an individual’s regulatory focus influenced the likelihood of him or her acting unethically. These authors found that people with a promotion focus were more likely to act unethically than those with a prevention focus, and suggested that such an inclination to act dishonestly could be explained by one’s attitude towards risk. Individuals with a promotion focus are more likely to engage risk-seeking behaviours than are those with a prevention focus, which predicts an inclination to avoid risk. As trust involves risk (Mayer et al., 1995), it may be that people with a prevention focus will be less likely to trust after a transgression than will those with a promotion focus. Equally, those with a promotion focus may be more willing to trust after a transgression if they believe doing so will help lead to goal attainment.

Regulatory focus also sensitizes people to experiencing emotions (Lanaj et al., 2012). Lanaj and colleagues reported that employees with a promotion focus tended to report more positive emotions, as well as higher self-esteem and self-efficacy. Conversely, prevention-focused employees report more negative emotions and a lower feeling of self-worth. This may impact on how people deal with unforeseen

difficulties; promotion-focused individuals may be more resilient in the face of such problems than their prevention-focused counterparts.

Taking the above into consideration, I posit that those with high levels of prevention focus would be less likely to perceive National Express as being trustworthy, and would hold lower levels of trust in the organization than participants who are promotion-focused. Promotion-focused individuals were expected to have higher perceptions of trustworthiness and overall trust levels, particularly after trust repair. Therefore, the following two hypotheses based on regulatory focus theory were proposed:

Hypothesis 7: Promotion-focus (measured at Time 1) will moderate the relationships of affect with (a) willingness to trust and (b) perceived organizational trustworthiness, measured at Times 2 and 3.

Hypothesis 8: Prevention-focus (measured at Time 1) will moderate the relationships of affect with (a) trust and (b) perceived organizational trustworthiness, measured at Times 2 and 3.

## **Study 1 Methods**

### **Participants**

100 participants were recruited via Prolific Academic to take part in the Time 1 baseline data collection, with the knowledge that they would be invited to take part in the experiment itself a week later. The baseline survey was posted to the website, and participants were solicited until the quota of 100 responses was filled. The participants were then randomly assigned to either a treatment or control group using a random number generator, and they were invited to take part in the experiment a week later. In total, 82 individuals responded and took part in the experiment, 40 were assigned to the treatment condition and 42 to the control condition. Of this sample of 82, 78 respondents reported their gender; 40 were female and 38 were male. 45% of the sample was aged between 20-29 years. The next most common age ranges were 30-39 years (18%) and under 20 years (17%). In terms of highest level of education attained, 35% had completed a Bachelor's degree, 31% had finished their A-Level

qualifications and 18% had obtained a postgraduate degree. Independent-samples t-tests showed that there were no statistically significant differences between the demographics of the treatment and control groups. **Table 6.1** shows complete demographic information for both the treatment and control groups.

**Table 6.1 - Study 1 Demographic Information**

	Treatment Group		Control Group	
	Number	%	Number	%
Gender	38	100%	40	100%
Male (1)	19	50%	19	47.50%
Female (2)	19	50%	21	52.50%
Age Category	40	100%	42	100%
Under 20	10	25%	4	9.50%
20-29	17	42.50%	20	47.60%
30-39	6	15%	9	21.40%
40-49	6	15%	7	16.70%
50-59	1	2.5%	1	2.40%
60-65	0	0%	0	0.00%
Over 65	0	0%	1	2.40%
Education Level	40	100%	42	100%
GCSEs	3	7.50%	1	2.40%
A Levels	15	37.50%	10	23.80%
Professional Qualification	4	10%	5	11.90%
Bachelor's Degree	13	32.50%	16	38.10%
Postgraduate	5	12.50%	10	23.80%
No Formal Qualifications	0	0%	0	0%
Heard of National Express?	37	100%	38	100%
Yes (1)	36	97.30%	37	97.40%
No (2)	1	2.70%	1	2.60%
Travelled with National Express	40	100%	40	100%
Yes - Since 2008 (1)	13	32.50%	11	28.20%
Yes - Prior to 2008 (2)	8	20%	12	30.80%
No (3)	19	47.50%	16	42%

### Research Design and Procedures

A pre-screening process took place to ensure that only people based in the United Kingdom with English as their first language could take part in the study. This decision was taken to minimise possible issues with language comprehension, and because the experimental stimuli occurred in the United Kingdom and affected a



British company. A week before the experimental component of the study began, participants completed a baseline survey collecting individual difference and demographic information, as well measures of baseline willingness to trust, perceptions of trustworthiness, and affect. The individual difference measures collected in this survey were trust propensity, state affect, emotional sensitivity, and regulatory focus orientation. After completing the individual difference measures, participants were then asked if they had heard of National Express, and if they had travelled with the company within the last four years (at the time of data collection, the accident had occurred four years previously), over four years ago, or not at all. They were then shown one of the company's promotional videos before being asked about how trustworthy they deemed National Express to be, and the level of trust they had in the organization. This was used as a baseline for perceptions of trustworthiness and willingness to trust.

I took the survey to estimate how long it would take to complete, and sent it to a colleague who did the same. These times were averaged, any survey that took less than eight minutes, one standard deviation below this average time, to complete was discarded. Each submission was also examined for evidence of straight-lined or incongruous responses. A similar procedure was undertaken in the second part of the study. Participants were paid twice; once upon completion of the first survey, and once upon completion of the second.

In the experiment, conducted approximately a week after completing the baseline survey, participants watched a video of a Channel 4 News segment. The video was embedded in a Qualtrics survey and the segment contained a news report of a National Express coach crash, followed by a live interview with the CEO of National Express in which he discusses the incident and the company's immediate response to it. In the context of this thesis and the trust repair literature, the coach crash event constitutes an organizational failure, and the CEO's interview is an immediate trust repair response to the failure (c.f. Gillespie & Dietz, 2009), as shown in **Table 6.2**, which also contains sample quotes from interview. Next to each quote is an example of the kind of trust repair response it is (i.e. apology, explanation, penance etc.).

After seeing the crash segment, both the treatment and control groups were asked to indicate their affective state before reporting their perceptions of National Expresses trustworthiness and indicating their level of trust in the company.

Following this, the manipulation took place. The treatment group watched the CEO’s interview (i.e., the trust repair effort), while the control group watched an unrelated video about news regulation and thus did not witness any trust repair activity. See **Appendix G** for a transcript of the trust repair manipulation interview.

**Table 6.2 - Evidence of Study 1 Treatment Group Manipulation Quotes, Response Types and Trust Repair Stage**

<b>Quote</b>	<b>Response Type</b>	<b>Trust Repair Stage (Gillespie &amp; Dietz, 2009)</b>
“Well the first thing I think we must say is that our condolences do go to the families that have lost loved ones today, and to those who are still very poorly in hospital”.	Expression of regret	Immediate response
“As to what happened, we are cooperating with the police, we’re working with everybody to find out what did happen”.	Explanation	Immediate response
“We have taken all of the vehicles today, the twelve double-deckers that we have, out of service. With the manufacturer’s team of engineers, we are checking them, that is because safety is top priority for us and we’re just going to make absolutely sure”.	Self-regulation	Immediate response

The filler clip was chosen because it was similar in length to the manipulation, shared the same news interview format, and the interviewee shared similar characteristics with the National Express CEO (i.e., was a white, middle-aged male). Both groups then had their affective states measured and were given a word-stem completion task to assess implicit affect before giving their perceptions of National Express and indicating their levels of trust for a third time.

### **Measures**

This section presents the measures used in Study 1 (**Appendix D**) contains the full set of items for each measure described in this section). Rationales for the use of each measure, as well as reliability statistics from previous samples are provided.

### **Dependent Variable Measures**

*Organizational Trustworthiness.* Eight items were adapted from McKnight, Choudhury and Kacmar's (2002) 11-item subscale of trusting beliefs. This subscale was chosen above others because it relates to perceptions of an organization external to the perceiver. A number of the most cited measures of trust and trustworthiness relate to interpersonal trust with managers/supervisors (i.e., Mayer & Davis, 1999; McAllister, 1995) inter-organizational trust between boundary-role persons (i.e., Currall & Judge, 1995) trust between collective entities involving negotiation and exchange (i.e., Cummings & Bromiley, 1996), and thus were not as relevant to the current study.

The original McKnight et al. subscale focused on e-commerce, and related to trust in company that provides legal advice. Because of their content specific to this context, three of the McKnight et al. items were not deemed to be adaptable to the context of a coach provider, and were thus not included in the measure for this study. More specifically, those discarded items are:

1. In general, LegalAdvice.com is very knowledgeable about the law.
2. If I required help, LegalAdvice.com would do its best to help me.
3. Overall, LegalAdvice.com is a capable and proficient Internet legal advice provider.

In addition, the wording of one other item from the original McKnight et al. scale was changed from "truthful in its dealings with me" to "truthful in its dealings with stakeholders" to obtain a more general overview of participants' perceptions of a company with which they may not have interacted with personally. Where applicable, "LegalAdvice.com" was changed to "National Express", and "internet legal advice provider" was changed to "coach provider". Regarding the trustworthiness dimensions, three of the items used in the current study relate to benevolence, three to integrity and two to ability. The original 11-item subscale had strong reliability with an alpha of .96.

*Willingness to Trust.* Four items were developed to measure trust for the purpose of this study. They focus on the decision stage of the trust process, and are worded as behavioural intentions ("how willing are you to...?"). The items relate to

willingness to be vulnerable (i.e., “How willing are you to rely on National Express to get you to your destination safely?”), and general willingness to use the company (“How willing are you to use National Express to take a long-distance journey?”). Although worded as behavioural intentions, the items denote *willingness*; they are not indicators that behaviours actually have occurred, or will definitely take place (Dietz & den Hartog, 2006; McEvily & Tortoriello, 2011). However, willingness to engage in a trusting behaviour is considered to be the most proximal antecedent of actual trusting behaviour (Currall & Judge, 1995).

### **Affect Measures**

*Implicit Affect.* A 20-item word-stem completion task developed by Johnson (2006), and tested by Johnson et al. (2010) was selected to measure implicit affect. Participants were asked to complete each word-stem as quickly as possible, and to skip any items that they were unable to complete. An example item is “\_ O Y “, with “JOY” being the target positive affect word, and “BOY” being a neutral word. The authors calculated the total number of words completed by participants and then divided the number of implicit positive affect (IPA) words and the number of implicit negative affect (INA) words by the total number of words completed to calculate a score for each dimension. I used the same procedure in this study. In the Johnson et al. (2010) paper, the measure’s Cohen’s  $\kappa$  was .91, indicating good reliability.

*Explicit Affect.* The 20-item Positive and Negative Affect Schedule (PANAS; Watson et al., 1998) was used to measure both trait and state explicit affect. Watson et al. (1998) reported the Cronbach alpha coefficient was .86 to .90 (depending on time instructions; e.g. at this moment, today, this year etc.) for the Positive Affect Scale and .84 to .87 for the Negative Affect scale, suggesting good internal consistency. To measure trait affect, in the instructions preceding the items, participants were asked to report on the extent that they feel certain emotions ‘in general’. To measure state affect, the instructions were changed to ask participants to report on the extent that they feel certain emotions ‘right now, that is, at the present moment’.

### **Individual Difference Measures**

*Emotional Sensitivity.* To measure emotional sensitivity, 12 items were adopted from Bloise and Johnson’s (2007) Emotional and Interpersonal Sensitivity Measure (EISM). Bloise and Johnson used 8 items from the Emotional Sensitivity

subscale and Social Sensitivity subscale of Riggio's (1986) Social Skills Index (SSI) to construct their instrument. They also added 4 items of their own to comprise the EISM. The overall SSI and the items from the Emotional Sensitivity and Social Sensitivity subscales have been well-established in other studies (e.g. Riggio, 1986; Riggio, Watring & Throckmorton, 1993), and the EISM had acceptable reliability with a coefficient alpha of .72.

*Regulatory Focus.* The 18-item General Regulatory Focus Measure (GRFM) developed by Lockwood, Jordan & Kunda (2002) was used to measure regulatory focus. Both the promotion (Cronbach's alpha: .81) and prevention (Cronbach's alpha: .75) subscales were reliable in Lockwood et al.'s (2002) study

*Propensity to Trust.* This variable was measured with 12 items adapted from Chun & Campbell's (1974) short form of Rotter's (1967) Interpersonal Trust Scale. The coefficient alphas for the short form version were shown to be .80 and .74 over two samples (Chun & Campbell, 1974).

## Results

Correlations, analysis of variance (ANOVA), and regression analyses were used to test the hypotheses. See **Table 6.3** for an overview of the means, standard deviations and reliabilities of the entire sample and **Table 6.4** for zero-order correlations between the dependent, affect and individual difference variables. **Table 6.5** shows the means and standard deviations for the same variables in the trust-repair and no-trust-repair groups as well as independent samples t-tests to determine if there are any significant mean differences between the two groups. In order to present a clear narrative, the results of the hypothesis testing are presented under four headings:

1. Was willingness to trust (trust) and perceptions of organizational trustworthiness (trustworthiness) breached and was there a recovery?
2. The role of trait, state and implicit affect on trust and trustworthiness.
3. Individual differences and their influence on the relationships between affect, trust and trustworthiness.
4. Further exploratory analyses.

**Table 6.3 - Study 1 Variable Means, Standard Deviations and Reliabilities for Full Sample**

Variable	M	SD	Alpha
1. Trust, T1	3.97	.64	.72
2. Trust, T2	3.11	1.02	.90
3. Trust, T3	3.27	.95	.91
4. Trustworthiness, T1	3.38	.43	.80
5. Trustworthiness, T2	3.13	.67	.90
6. Trustworthiness, T3	3.29	.65	.91
7. Positive Affect, T1	2.40	.81	.91
8. Positive Affect, T2	1.78	.69	.89
9. Positive Affect, T3	1.89	.77	.92
10. Negative Affect, T1	1.31	.55	.91
11. Negative Affect, T2	2.20	.97	.90
12. Negative Affect, T3	1.41	.57	.86
13. Trait Positive Affect	3.10	.72	.89
14. Trait Negative Affect	1.95	.85	.86
15. Implicit Positive Affect	0.39	.19	--
16. Implicit Negative Affect	0.49	.18	--
17. Trust Propensity	3.31	.39	.74
18. Emotional Sensitivity	3.22	.61	.80
19 Promotion	6.29	1.56	.92
20 Prevention	5.40	1.56	.85

*Note.* N = 82. M = Mean, SD = Standard deviation. T = Time.

**Table 6.4** reports results of independent samples t-tests of variables conducted to determine whether there were significant differences between the treatment (i.e., those receiving the trust repair) and control groups. Prior to these analyses, Levene's test for equality of variance was consulted for each of the variables, showing that variability in NA at Times 1 and 3, and in TPA were significantly different between groups, thus degrees of freedom for the t-tests of these variables were adjusted accordingly. The tests for mean differences showed a significant difference between the two groups in emotional sensitivity, measured at Time 1. Thus, this is a pre-existing difference that had nothing to do with the experimental procedure. The treatment group had a significantly lower emotional sensitivity mean than the control group, mean difference score =  $-.35$ , 95% CI  $[-.605$  to  $-.085]$ ,  $t(78) = -2.64$ ,  $p = .01$ .

There were also significant differences in NA at Time 3 and INA at Time 3. Somewhat surprisingly, the trust repair condition group had a significantly higher mean level of negative affect at Time 3 than did the no-trust-repair group: mean difference score =  $.43$ , 95% CI  $[.19$  to  $.67]$ ,  $t(53.34) = 3.57$ ,  $p < .001$ . With this being

the case, it may not be surprising that the treatment group also had a statistically significant mean level of INA than their control group counterparts; mean difference score = .09, 95% *CI* [.013 to .170],  $t(80) = 2.32$ ,  $p = .023$ . These counter-intuitive results highlight the importance of looking at change in affect in the hypothesis tests that will be made a bit later in this chapter. The critical question is not whether the treatment and control groups differ in Time 3 levels of mean affect, but whether their changes in levels of affect from Time 2 to Time 3 differ.

Reviewing **Table 6.5**, there are a few correlations of particular interest. Foreshadowing the hypothesis testing, it is evident that there are significant negative correlations between NA at Time 2 and both dependent variables at Time 2. For trust, the relationship was as follows:  $r = -.25$ ,  $p = .025$ . For trustworthiness,  $r = -.29$ ,  $p = .008$ . It is important to note that these measures were taken after the participants watched the news report (the trust transgression), but before the differential trust repair manipulation. With this in mind, the relationship between NA at Time 2 and emotional sensitivity is also interesting;  $r = .32$ ,  $p = .004$ . This may indicate that the level of negative affect participants feel after seeing the transgression stimulus relates to how emotionally sensitive they are. Moreover, emotional sensitivity was also positively correlated with TNA,  $r = .31$ ,  $p = .006$ . These relationships hint at a possible relationship between the dependent variables, negative affect and emotional sensitivity, which is examined in the hypothesis testing.

At Time 1 and Time 2, all participants were subject to the same materials, but at Time 3 the treatment group saw a trust repair effort and the control group did not. Hence, Time 3 relationships were analysed using partial correlations, to control for the trust repair manipulation effects. There were no statistically significant zero-order correlations of either of the dependent variables at Time 3 with any of the affect or individual difference variables. However, there was one significant correlation between an affect variable and an individual difference variable when the condition (treatment vs. control) was controlled. Namely, emotional sensitivity was negatively correlated with PA at Time 3,  $r = -.24$ ,  $p = .04$ .

**Table 6.4 - Experimental and Control Group Means, Standard Deviations and Independent Samples t-tests.**

Variable	Treatment Group		Control Group		t
	M	SD	M	SD	
1. Trust, T1	3.83	.59	4.10	.67	-1.88
2. Trust, T2	3.00	1.05	3.21	.99	-.93
3. Trust, T3	3.26	.92	3.29	.99	-.14
4. Trustworthiness, T1	3.33	.47	3.42	.39	-.93
5. Trustworthiness, T2	3.09	.68	3.16	.65	-.48
6. Trustworthiness, T3	3.35	.61	3.22	.69	.93
7. Positive Affect, T1	2.37	.83	2.43	.80	-.35
8. Positive Affect, T2	1.70	.62	1.85	.75	-.99
9. Positive Affect, T3	1.78	.68	1.98	.84	-1.19
10. Negative Affect, T1	1.20	.40	1.42	.65	-1.88
11. Negative Affect, T2	2.31	1.06	2.10	.89	.95
12. Negative Affect, T3	1.63	.70	1.20	.31	3.58**
13. Trait Positive Affect	2.94	.80	3.24	.60	-1.88
14. Trait Negative Affect	1.88	.87	2.02	.82	-.76
15. Implicit Positive Affect	0.42	.17	0.37	.20	1.21
16. Implicit Negative Affect	0.53	.18	0.44	.18	2.32*
17. Trust Propensity	3.23	.43	3.39	.34	-1.89
18. Emotional Sensitivity.	3.05	.55	3.39	.62	-2.65**
19. Promotion	6.00	1.47	6.60	1.70	-1.85
20. Prevention	5.16	1.50	5.64	1.57	-1.43

*Note.*  $N = 82$ ,  $df$  ranged from 53 to 80. Emot'l Sens = Emotional Sensitivity, PA = Positive Affect, NA = Negative Affect, Trustworth. = Trustworthiness.

\*  $p < .05$ ; \*\*  $p < .01$ .



**Table 6.5 - Study 1 Bivariate Correlations**

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Trust, T1	.47	.49	.34	.29	.34	.02	.13	.03	.01	.02	-.06	.08	.14	.04	-.14	.07	.19	-.10	-.09
2. Trust, T2	--	.89	.11	.64	.62	-.19	.00	-.09	-.08	-.25	-.20	-.15	.10	.04	-.05	.17	-.08	-.17	.16
3. Trust, T3	--	--	.15	.60	.70	-.15	.02	-.04	-.05	-.17	-.13	-.10	.12	.09	.03	.17	-.04	-.18	.16
4. Trustworthiness, T1			--	.39	.40	.21	.12	.18	.04	.16	.06	.30	.33	-.16	-.07	.08	.32	.14	.19
5. Trustworthiness, T2				--	.80	-.11	.00	-.02	-.14	-.29	-.18	-.03	-.04	-.01	-.16	.07	-.13	-.04	-.05
6. Trustworthiness, T3					--	-.02	.02	.01	-.19	-.17	-.09	.04	.03	.05	-.05	.05	-.08	-.04	.07
7. Positive Affect, T1						--	.57	.50	.12	.19	.19	.61	-.01	-.06	.07	.06	.02	.22	-.03
8. Positive Affect, T2							--	.83	.10	-.08	-.08	.38	-.12	.07	.08	.05	.10	.09	.10
9. Positive Affect, T3								--	.18	.00	-.05	.39	-.05	.09	.08	.09	-.17	.09	-.02
10. Negative Affect, T1									--	.21	.18	.01	.34	-.06	.02	.38	.06	-.21	.24
11. Negative Affect, T2										--	.69	.15	.47	.08	.17	-.02	.32	-.03	.19
12. Negative Affect, T3											--	-.02	.33	.09	.25	-.05	.17	-.06	.13
13. Trait Positive Affect												--	-.10	.03	.17	.03	.17	.43	-.11
14. Trait Negative Affect													--	-.04	-.09	.15	.31	-.07	.56
15. Implicit Positive Affect														--	.42	-.07	.08	.01	.10
16. Implicit NA															--	-.05	.10	-.10	.15
17. Trust Propensity																--	.15	.15	.24
18. Emotional Sensitivity																	--	.19	.32
19 Promotion																		--	.20
20 Prevention																			--

Note.  $N = 82$ . Implicit NA = Implicit Negative Affect  
 $r > |.22|$  has  $p < .05$ ;  $r > |.28|$  has  $p < .01$ ;  $r > |.35|$  has  $p < .001$  (two-tailed).

Multiple regression analysis was used to test a series of models to determine the effects of affect, emotional sensitivity and regulatory focus on perceptions of trustworthiness and willingness to trust. Moreover, hierarchical linear regression was chosen as a method of analysis as it enabled me to test for moderation effects. New forms of the two dependent variables were created for these analyses. Specifically, the difference between Time 3 and Time 2 values was calculated to create difference scores for trust and trustworthiness. A similar procedure was used to create difference scores for two of the predictor variables: PA and NA. In preparation for the moderator analyses, the values of emotional sensitivity, Time 3 – Time 2 PA and NA difference scores, IPA and INA scores, and promotion and prevention were mean-centred, and multiplicative interaction terms were created from the centred variables. Each regression was performed on the sample split into treatment and control groups. The results of the analyses are presented in **Tables 6.7 – 6.13**. For an overview of the hypotheses and whether they were supported, see **Table 6.6**. **Table 6.14** relates to exploratory, post-hoc analysis of the regression of the trust difference score on the NA difference score and the trustworthiness difference score to determine whether NA was a significant predictor of willingness to trust when controlling for cognitive evaluations of perceptions of trustworthiness. Results in **Tables 6.5 – 6.14** are shown for both the treatment and control groups. Interestingly, there were no statistically significant results in the control group, suggesting that any significant results in the treatment group were not simply caused by time.

As a precursor to the results, analyses were undertaken three times. Once with all affective measures included in regressions of the dependent variables with individual differences, that is, trait, explicit and implicit measures, once with explicit and implicit measures, and once with explicit measures only. The results tables related to relationships between the dependent variables, affect variables, and individual difference variables included in the text are those that include explicit measures of affect only. Moreover, the individual difference variable of trust propensity did not have any hypotheses regarding its effects. Rather, it was expected that it would relate to trust and trustworthiness and would be an important control variable in the regression models. However, it did not significantly correlate with either of the dependent variables at any time point. Furthermore, trust propensity was included as a control variable in all analyses that included the trust and perceived organizational

trustworthiness variables, but it was not found to alter results to a significant degree. Hence, I took the decision to re-run analyses without it for the sake of parsimony and these are the results contained within the text and corresponding tables.

### **Tests of Trust Breach and Repair Hypotheses**

Hypothesis 1 proposed that immediately following the trust violation, there would be an overall decrease in the levels of the two dependent variables from Time 1 to Time 2, namely, (a) willingness to trust in the organization and (b) perceptions of organizational trustworthiness. To test this hypothesis, it was necessary to compare the change in willingness to trust and perceptions of trustworthiness responses from Time 1 to Time 2, for both the treatment and the control group going across the full sample.

Hypothesis 2 proposed that, compared to participants in the control condition who did not receive a trust repair response, those in the treatment condition who received the trust repair response would show a greater recovery in levels of the two dependent variables: (a) willingness to trust in the organization and (b) perceptions of organizational trustworthiness, indicating that participants perceived a trust breach. Thus, this hypothesis involves a proposed interaction effect, namely, that the experimental group will show a larger change in trust and trustworthiness means from Time 2 to Time 3 than will the control group combined.

To test these hypotheses, ANOVA analyses were undertaken. For Hypothesis 1, a 2 (treatment vs. control groups) x 2 (Time 1 vs. Time 2) repeated measures ANOVA model was used in separate tests for each of the two dependent variables. Note that at both times, the two conditions had received the same materials in the study, so they would be expected to show the same pattern of drops in trust and trustworthiness. In other words, Hypothesis 1 suggests that there should be a *main effect* for time (i.e., a decrease in means from T1 to T2), but no time-by-condition interaction effect would be expected in the ANOVA.

For Hypothesis 2, the 2 x 2 repeated measures ANOVA analysis was also used, although the time factor now involved the comparison of Time 2 vs. Time 3 values of the dependent variables. Support for Hypothesis 2 would consist of a statistically significant *time-by-condition* interaction effect, in contrast to Hypothesis 1.

**Table 6.6 - Overview of Study 1 Hypotheses, Analyses Methods and Evidence of Support Continued**

Hypothesis	Method of Analysis	Hypothesis Supported?
There will be a decrease in (a) trust in the organisation and (b) perceived organisational trustworthiness, immediately following the trust violation, as indicated by the change in responses from Time 1 to Time 2.	2 (condition: treatment vs. control group) x 2 (time: Time 1 vs. Time 2 DV measures) ANOVA. Main effect for time expected, but no time-by-condition interaction effect.	Full Support
Compared to participants who do not receive a trust repair response, those who receive the trust repair response will show a greater recovery in levels of (a) trust in the organisation and (b) perceived trustworthiness, as indicated by the change in responses from Time 2 to Time 3.	2 (condition: treatment vs. control group) x 2 (time: Time 2 vs. Time 3 DV measures) ANOVA. Significant time-by-condition interaction effect expected.	Partial Support – Significant time-by condition effects found for perceptions of trustworthiness. Effects significant at the .10-, but not .05-level for trust.
Positive trait affect will relate positively to (a) trust and (b) perceived organisational trustworthiness, and negative trait affect will relate negatively to (a) trust and (b) perceived organisational trustworthiness.	Correlations between the dependent variables at T1, T2 and T3 and the trait affectivity measures at T1, followed by hierarchical regressions of trust and trustworthiness change on trait, state and implicit affect measures	No Support
Explicit positive state affect will positively relate to (a) trust and (b) perceived organisational trustworthiness, and negative state affect will relate negatively to (a) trust and (b) perceived organisational trustworthiness.	Correlations between the dependent variables at T1, T2 and T3 and the explicit measures of affect at T1, T2 and T3, followed by hierarchical regressions of trust and trustworthiness change on trait, state and implicit affect measures.	Full Support

**Table 6.6** continued

Emotional sensitivity (measured at Time 1) will moderate the relationship between affect, trust and perceived organisational trustworthiness at Times 2 and 3.	Multiple linear regressions of the dependent variables' difference scores on emotional sensitivity and other independent variables related to affect.	Partial Support – Moderation effect apparent in the relationship between emotional sensitivity, explicit positive affect and trust difference score.
Promotion-focus (measured at Time 1) will moderate the relationships of affect with (a) trust and (b) perceived organisational trustworthiness, measured at Times 2 and 3.	Multiple linear regressions of the dependent variables' difference scores on promotion focus and other independent variables related to affect.	No Support
Prevention-focus (measured at Time 1) will moderate the relationships of affect with (a) trust and (b) perceived organisational trustworthiness, measured at Times 2 and 3.	Multiple linear regressions of the dependent variables' difference scores on prevention focus and other independent variables related to affect.	Partial Support – Moderation effect apparent in the relationships between prevention-focus, explicit negative affect and the trustworthiness difference score, but not the trust difference score.
Exploratory, Post Hoc Analysis – Is negative affect change from Time 2 to Time 3 still a significant indicator of trust change from Time 2 to Time 3 when Trustworthiness change from Time 2 to Time 3 is included in analysis?	Hierarchical linear regression of (1) trust change on negative affect change and (2) trust change on negative affect change and trustworthiness change. Support would entail negative affect change remaining a significant indicator when trustworthiness change is included in the regression.	Full Support

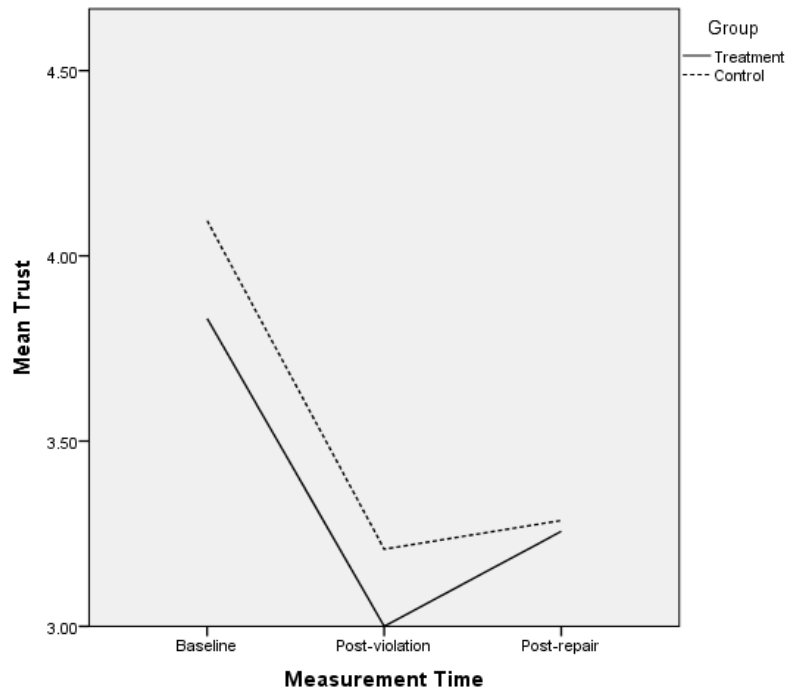
*Note.* DV = Dependent variable, T = Time (e.g. 'T1' = Time 1).

Hypothesis 1a, which pertained to trust failure, was supported; there appears to have been a trust breach at Time 2, as expected. The effect of time was statistically significant,  $F(1, 80) = 72.00, p < .001$ . Yet, as predicted, at this point there was no statistically significant difference between the treatment and control conditions, as indicated by the lack of a significant time-by-condition effect,  $(1, 80) = .08, p = .78$ .

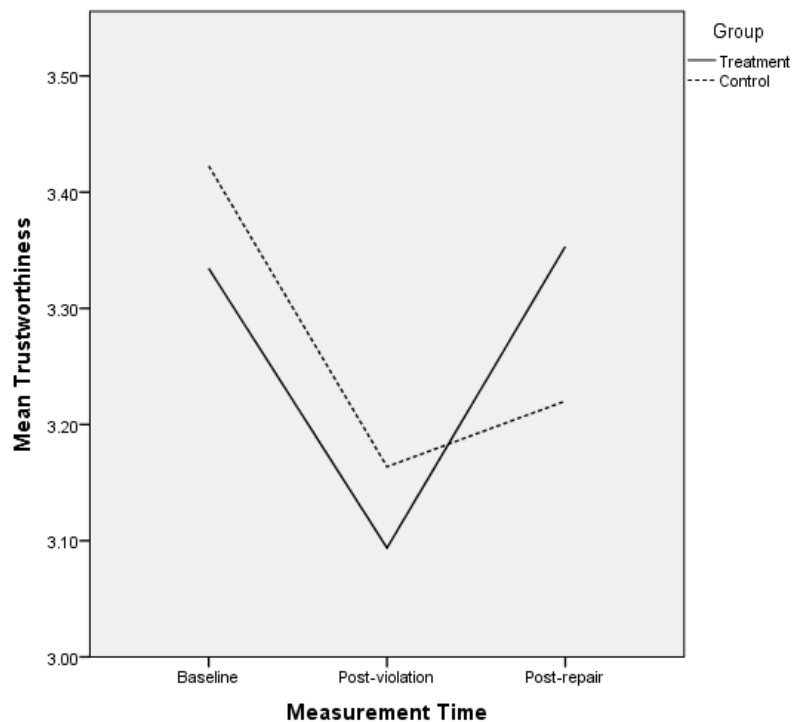
The treatment group's mean level of trust fell by .83, from 3.83 at Time 1 to 3.00 at Time 2. In the control group, it decreased by .91, from 4.10 to 3.21.

Hypothesis 1b was also supported, perceived organisational trustworthiness significantly declined in both groups from Time 1 to Time 2,  $F(1, 80) = 12.62$ ,  $p = .001$ . The difference between the treatment and control groups was not significant, as expected,  $F(1, 80) = .02$ ,  $p = .90$ . In the treatment group, mean trustworthiness dropped by .24, from 3.33 to 3.09, and in the control group it fell by .25, from 3.42 to 3.17.

Hypothesis 2a, which focused on trust repair, received weak support for the trust variable; the time-by-condition interaction effect was not statistically significant at the .05 level,  $F(1, 80) = 3.16$ ,  $p = .08$ . However, the pattern of the interaction effect was as expected. Specifically, trust recovered to a greater extent in the treatment group than in the control group, with the mean level of trust increasing by .26, from 3.00 at Time 2 to 3.26 at Time 3. There was also an increase in trust in the control group, but it was smaller; .08, from 3.21 at Time 2 to 3.29 at Time 3. Hypothesis 2b was fully supported, as the time-by-condition interaction effect was statistically significant for the trustworthiness variable,  $F(1, 80) = 5.24$ ,  $p = .025$ . Again, the pattern for the significant interaction effect was as expected. Namely, there was a greater recovery in mean trustworthiness from Time 2 to Time 3 in the treatment group, with means of 3.09 and 3.35, respectively. Perceptions of organizational trustworthiness also increased in the control group, but to a lesser extent, with a Time 2 mean of 3.17 and a Time 3 mean of 3.22. These values are displayed in **Figures 2** and **3**. **Figure 2** depicts change in willingness to trust from baseline (Time 1) to post-violation (Time 2) to post-repair (Time 3) in the treatment and control groups. **Figure 3** shows the same process for change in perceptions of trustworthiness.



**Figure 2. Study 1 Trust Violation and Repair: Estimated Marginal Means of Trust from Baseline (Time 1) to Post-repair (Time 3).**



**Figure 3. Study 1 Trustworthiness Violation and Repair: Estimated Marginal Means of Trustworthiness from Baseline (Time 1) to Post-repair (Time 3).**

The results described in this section offer support for Hypotheses 1 (breach) and 2 (recovery). There was a breach in the dependent variables of willingness to trust and perceptions of organizational trustworthiness after the trust violation, as demonstrated by the significant drop in mean levels of trust in the whole sample from Time 1 to Time 2. Furthermore, both levels of trust and of perceived organizational trustworthiness increased in the trust repair condition group to a greater extent than they did in the control group from Time 2 to Time 3, indicating trust repair effects.

### **Tests of Mood Effects on Trust Outcomes**

Earlier in the results section, I briefly described the zero-order correlations between variables used in this study. TPA and TNA both positively correlated to perceptions of organizational trustworthiness at Time 1, and NA at Time 2 negatively correlated to both willingness to trust and trustworthiness at Time 2. Implicit affect measures did not correlate with either dependent variable at any time point.

Although correlation matrices tell us about relationships between two variables in isolation, in order to understand the relationships that trait, state and implicit affect have on the dependent variables and individual difference variables, they must be considered not in isolation, but together. To do this, multiple linear regression analyses were undertaken to determine how the three sets of variables related to the difference scores (Time 2 to Time 3) of willingness to trust and perceived organizational trustworthiness. As trait affect is an individual difference, the trait affect variable of interest (either TNA or TPA, respectively) was included first, followed by explicit affect (either NA or PA), then implicit affect (either INA or IPA). This allowed me to determine whether trait affect alone could predict either of the dependent variables, whether state affect added anything above and beyond the trait measures, and finally whether the addition of implicit affect would substantively increase the predictive variance in the dependent variables, thus testing Hypotheses 3, 4 and 5, respectively. Note that all regression coefficients reported are unstandardized.

**Trait affect results.** As demonstrated in **Table 6.7** and **Table 6.8**, respectively, neither TNA nor TPA were statistically significant in predicting a change in perceptions of trustworthiness ( $\Delta$  trustworthiness) from Time 2 to Time 3, and when state affect measures were included in analyses, the unstandardized regression coefficients of TNA (**Table 6.6**, Model 1,  $b = .09$ ,  $t = .95$ ) and TPA (**Table 6.7**, Model



1,  $b = <.01$ ,  $t = .02$ ) indicate that trait affect does not add anything to the relationship that cannot be explained by state measures. Although for change in willingness to trust ( $\Delta$  trust), TPA was significant at the .10 level ( $p = .086$ ), and formed a positive relationship, as expected (**Table 6.7**, Model 1,  $b = .19$ ,  $t = 1.76$ ), when PA was added to the regression, it accounted for greater variance and subsumed the effect of the trait measure. The TPA  $b$  was just .03,  $t = .26$ , implying that the state measure of affect was more significant predictor of  $\Delta$  trust than the trait measure. TNA was not statistically significant in predicting  $\Delta$  trust, and the addition of state negative affect variables diminished its significance further. Hence, Hypothesis 3 was not supported. Given this finding, further regressions including state and implicit measures of affect were recalculated without trait variables.

**State affect results.** Results pertaining to state affect and implicit affect, which is discussed in the following paragraph, are displayed in **Table 6.9**.  $\Delta$  NA had a significant relationship with  $\Delta$  trustworthiness,  $F(2, 37) = 4.45$ ,  $p = .02$ ,  $R^2 = .19$ . Moreover, the regression coefficients of the Time 2 and Time 3 measures indicate a difference effect (T2  $b = .39$ ,  $t = 2.96$ , T3  $b = -.46$ ,  $t = -2.29$ ).  $\Delta$  PA did not have a significant relationship with  $\Delta$  trustworthiness at the .05 level,  $F(2, 37) = 2.77$ ,  $p = .076$ ,  $R^2 = .13$ . The Time 3 measure explained more variance than Time 2 but it was not statistically significant, T3  $b = .28$ ,  $t = 1.57$ , T2  $b = -.01$ ,  $t = -.07$ .

Both PA and NA appeared to have significant relationships with  $\Delta$  trust. As with trustworthiness, there seemed to be an important difference between Time 2 and Time 3 NA (T2  $b = .42$ ,  $t = 3.23$ , T3  $b = -.43$ ,  $t = -2.05$ ) that meant a significant relationship occurred between  $\Delta$  NA and  $\Delta$  trust,  $F(2, 37) = 7.47$ ,  $p = .002$ ,  $R^2 = .29$ .  $\Delta$  PA also had a significant relationship with  $\Delta$  trust,  $F(2, 37) = 6.01$ ,  $p = .002$ ,  $R^2 = .25$ , and Time 3 seemed to be a more significant predictor than Time 2 (T2  $b = -.15$ ,  $t = -.83$ , T3  $b = .51$ ,  $t = 3.78$ ). In sum, Hypothesis 4 was supported; NA related significantly to both dependent variables at the .05 level, and PA was significantly related to trust at the .05 level and trustworthiness at the .10 level. Hence, NA seemed to be predominant, and the difference between it at Times 2 and 3 were of particular importance in the trust repair context of this study.

**Implicit affect results.** INA, appeared to be a significant predictor of both  $\Delta$  trustworthiness and  $\Delta$  trust above and beyond explicit state negative affect measures. The relationship with  $\Delta$  trustworthiness was as follows:  $\Delta F(2, 37) = 5.58$ ,  $p = .004$ ,

$\Delta R^2 = .11$ . The implicit regression coefficient was significant ( $b = .94, t = 2.36$ ). For  $\Delta$  trust, this was the relationship:  $\Delta F(2, 37) = 5.61, p = .001, \Delta R^2 = .10, b = .94, t = 2.37$ .

IPA was a significant predictor of  $\Delta$  trustworthiness even when controlling PA ( $p = .076$  for Model 2 without IPA,  $p = .030$  for Model 3 with IPA), but not for  $\Delta$  trust ( $p = .002$  for Model 2 without IPA,  $p = .003$  for Model 3 with IPA).

However, it is difficult to explain the positive direction of the INA regression coefficients in relationships with both  $\Delta$  trustworthiness and  $\Delta$  trust. Consulting the corresponding bivariate correlations also indicates an unexpected relationship. Specifically, the relationships between INA and trust at Times 1 and 2 were negative as expected, yet at Time 3 it was positive, if nonsignificant ( $r = .03, p = .789$ ). For trustworthiness, the relationships were negative, at all time points, as expected. However, they were nonsignificant. It is likely that the unexpected positive regression coefficient relationships between INA and both  $\Delta$  trustworthiness and  $\Delta$  trust was caused by multicollinearity, given that the relationship between the predictor variables of INA and NA Time 3 was significant ( $r = .25, p = .023$ ), yet relations between INA and each of the dependent variables were all almost non-existent. With this possibility in mind, it was decided that implicit measures would not be included in further analyses for the purposes of this study. Therefore, Hypothesis 5, relating to the influence of implicit affect on the dependent variables of  $\Delta$  trustworthiness and  $\Delta$  trust, was inconclusive. That is not to say they should not be considered in future research.

In conclusion, it appears that state affect, particularly NA, played an important role in the restoration of both trust and perceptions of trustworthiness following the post repair manipulation in the treatment group. Moreover, it is the difference effect between the Time 2 and Time 3 measures that is important. PA also appeared to predict  $\Delta$  trust, and to a lesser extent, trustworthiness, but only at Time 3. Trait affect was found to add nothing above and beyond what state affect predicts, and further investigation into the role of implicit affect is required.

**Table 6.7 - Regression of Dependent Variables' Change (Time 3 - Time 2) on Trait and State Negative Affect Variables**

Independent Variable	Model 1		Treatment				Model 1		Control		Model3	
	B	t	Model 2 B	t	Model 3 B	t	B	t	Model 2 B	t	B	t
DV: $\Delta$ Tworth												
TNA	.12	1.29	.09	.95	.08	.89	-.01	-.10	-.01	-.17	-.02	-.27
NA 2	--	--	.37	2.79*	.40	3.14*	--	--	-.01	-.11	.00	-.06
NA 3	--	--	-.48	-2.38*	-.55	-2.85*	--	--	.05	.39	.09	.54
INA 3	--	--	--	--	.93	2.13*	--	--	--	--	-.27	1.11
R <sup>2</sup>		.04		.21*		.32**		.00		.00		.04
$\Delta$ R <sup>2</sup>		--		.17*		.10*		--		.00		.04
DV: $\Delta$ Trust												
TNA	.09	.89	.00	.10	-.00	-.00	-.03	-.40	.03	.29	.02	.25
NA 2	--	--	.42	3.14*	.45	3.52*	--	--	-.10	-1.15	-.10	-1.09
NA 3	--	--	-.41	-2.02*	-.48	-2.48*	--	--	.05	.23	.06	.27
INA 3	--	--	--	--	.94	2.33*	--	--	--	--	-.11	-.31
R <sup>2</sup>		.02		.25*		.35**						
$\Delta$ R <sup>2</sup>		--		.23**		.10*		.00		.04		.00

*Note.* Treatment  $n = 40$ , Control  $n = 41$ .  $\Delta$  Tworth = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3.  $\Delta$  Trust = a difference score created by subtracting T2 Trust from T3 Trust, thus positive values of this variable indicate an increase in Trust from T2 to T3. TNA = Trait Negative Affect, NA = Negative Affect, INA = Implicit Negative Affect PA = Positive Affect. Regression weights are unstandardized.

\*  $p < .05$ , \*\*  $p < .01$

**Table 6.8 - Regression of Dependent Variables' Change (Time 3 - Time 2) on Trait and State Positive Affect Variables**

Independent Variable	Model 1		Treatment Model 2		Model 3		Model 1		Control Model 2		Model 3	
	B	t	B	t	B	t	B	t	B	t	B	t
DV: $\Delta$ Tworth.												
TPA	.11	1.13	.00	.02	-.00	-.04	.06	.84	.10	1.50	.08	1.18
PA 2	--	--	-.01	-.07	-.03	-.17	--	--	-.01	-.12	-.02	-.23
PA 3	--	--	.28	1.5	.26	1.46	--	--	-.10	-1.11	-.08	-.93
IPA 3	--	--	--	--	.91	1.98	--	--	--	--	-.40	-2.13*
R <sup>2</sup>		.03		.13		.22		.02		.14		.23*
$\Delta$ R <sup>2</sup>		--		.10		.09		--		.12		.09*
DV: $\Delta$ Trust												
TPA	.18	1.76	.03	.26	.02	.22	-.02	-.16	.03	.32	.03	.23
PA 2	--	--	-.16	-.85	-.17	-.92	--	--	.06	.36	.05	.33
PA 3	--	--	.49	2.88**	.48	2.84**	--	--	-.17	-1.20	-.16	-1.14
IPA 3	--	--	--	--	.55	1.25	--	--	--	--	-.13	-.44
R <sup>2</sup>		.09		.29**		.32**		.00		.07		.08
$\Delta$ R <sup>2</sup>		--		.21**		.03		--		.07		.01

Note. Treatment  $n = 40$ , Control  $n = 41$ .  $\Delta$  Tworth = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3.  $\Delta$  Trust = a difference score created by subtracting T2 Trust from T3 Trust, thus positive values of this variable indicate an increase in Trust from T2 to T3. TPA = Trait Positive Affect, NA = Negative Affect, INA = Implicit Negative Affect. Regression weights are unstandardized.

\*  $p < .05$ , \*\*  $p < .01$

**Table 6.9 - Regression of Dependent Variables' Change (Time 3 - Time 2) on Explicit and Implicit Affect Variables**

Independent Variable	Treatment				Control											
	Model 1		Model 2		Model 1		Model 2									
	B	t	R <sup>2</sup>	ΔR <sup>2</sup>	B	t	R <sup>2</sup>	ΔR <sup>2</sup>	B	t	R <sup>2</sup>	ΔR <sup>2</sup>	B	t	R <sup>2</sup>	ΔR <sup>2</sup>
DV: Δ Tworth			.19*	--			.30**	.11*			.00	--			.03	.03
NA 2	.39	2.96**			.42	3.31**			-.01	-.22			-.00	-.08		
NA 3	-.46	-2.29*			-.53	-2.80**			.06	.37			.08	.49		
INA 3	--	--			.95	2.36*			--	--			-.27	2.34*		
DV: Δ Trust			.25**	--			.35**	.10*			.04	--			.04	.00
NA 2	.42	3.23**			.45	3.61**			-.09	-1.18			-.088	-1.12		
NA 3	-.41	-2.05*			-.48	-2.53*			.07	.32			.078	.349		
INA 3	--	--			.94	2.37*			--	--			-.119	-.337		
DV: Δ Tworth			.13	--			.21*	.08			.09	--			.21*	.12*
PA 2	-.01	-.07			-.03	.18			-.00	-.03			-.02	-.17		
PA 3	.28	1.57			.26	1.51			-.95	1.59			-.07	-.80		
IPA 3					.91	2.00*			--	--			-.44	-2.36*		
DV: Δ Trust			.29**	--			.32**	.03			.07	--			.07	.00
PA 2	-.15	-.83			-.16	-.91			.06	.38			.06	.35		
PA 3	.51	3.08**			.49	3.02**			-.17	-1.19			-.16	-1.13		
IPA 3	--	--			.55	2.00			.06	.38			-.15	-.49		

*Note.* Treatment  $n = 40$ , Control  $n = 41$ . Δ Tworth = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3. Δ Trust = a difference score created by subtracting T2 Trust from T3 Trust, thus positive values of this variable indicate an increase in Trust from T2 to T3. NA = Negative Affect, INA = Implicit Negative Affect. PA = Positive Affect, IPA = Implicit Positive Affect. Regression weights are unstandardized.

\*  $p < .05$ ; \*\*  $p < .01$ .

### Tests of Individual Difference Effects on Trust Outcomes

Note that analyses related to hypotheses 6, 7, and 8 were undertaken without either trait or implicit measures. I took this decision due to the lack of influence the trait measures had in previous analyses, and the difficulty in interpreting results relating to the implicit measures.

**Emotional sensitivity.** The hypothesised moderation effect of emotional sensitivity on the relationship between the dependent variables and state affect measures was not found for  $\Delta$  trustworthiness (see **Table 6.10**), but was apparent in the relationship between  $\Delta$  trust and PA, as demonstrated in **Table 6.11**. The regression of  $\Delta$  trust on emotional sensitivity, PA T2 and T3, and the product terms of emotional sensitivity with the two affect measures proved to be significant. Indeed, Model 3, which included the product terms, accounted for 21% more variance than Model 2, which did not include the product terms. However, Model 3 showed that emotional sensitivity was significant ( $b = .32, t = 2.59$ ), but the product terms ESxPA2 ( $b = .58, t = 1.73$ ) and ESxPA3 ( $b = .50, t = 1.58$ ) were not. In Model 2, emotional sensitivity was not significant ( $b = .15, t = 1.07$ ). Emotional sensitivity did not have a significant influence on either  $\Delta$  trustworthiness or  $\Delta$  trust in relation to NA, neither as a lone predictor nor a moderator.

In sum, Hypothesis 6 received weak support; there was a significant moderation effect when trust was regressed on emotional sensitivity and PA variables, but no other similar effects for trust and NA, or for trustworthiness and either PA or NA.

**Regulatory focus.** Promotion orientation had no significant relationship with neither  $\Delta$  trustworthiness nor  $\Delta$  trust, nor did it significantly relate to any of the affect measures. **Table 6.12** shows that the proposed moderator model (Model 3) accounted for 37% of the total variance, just a 7% increase from Model 2. This change was not significant, and in both models the regression coefficients suggest that the role played by promotion orientation was miniscule (Model 2:  $b = -.04, t = -.80$ ; Model 3:  $b = -.07, t = -1.26$ ). Thus, Hypothesis 7 was not supported.

Prevention orientation proved to be a significant moderator of relations between the state negative affect variables and  $\Delta$  trustworthiness, but not  $\Delta$  trust, as shown in **Table 6.13**.

Moreover, prevention orientation had a statistically significant positive relationship with  $\Delta$  trustworthiness as a lone predictor ( $b = .16, p = .006, R^2 = .18$ ). Prevention orientation became more significant when regressed on NA at Time 2 and Time 3,  $\Delta F(3, 36) = 5.85, p = .002, \Delta R^2 = .14$ . When the product terms prevention x NA2 and prevention x NA3 were included in the regression, the relationship became stronger still,  $\Delta F(3, 36) = 5.50, p = <.001, \Delta R^2 = .16$ , accounting for almost 50% of the variance in predicting  $\Delta$  trustworthiness. In addition, there appeared to be a difference effect, as the product term prevention x NA2 had a positive relationship with  $\Delta$  trustworthiness ( $b = .23, t = 3.10$ ), and prevention x NA3 had a negative relationship with it ( $b = -.35, t = -3.20$ ).

Prevention-orientation was not significant in predicting  $\Delta$  trust in isolation ( $p = .67$ ), and although Model 2, which included it in a regression with NA T2 and T3 accounted for 24% of the variance in  $\Delta$  trust, the regression coefficient of prevention-orientation shows that its role in this significant relationship was negligible ( $b = <-.01, t = -.09$ ). The addition of the product terms prevention x NA2 and prevention x NA3 resulted in an 8% increase in explained variance, but this was a nonsignificant change. Thus, there was not a statistically significant moderation effect. Given a moderation effect was present for  $\Delta$  trustworthiness but not for  $\Delta$  trust, Hypothesis 8 was only partially supported.

**Table 6.10 - Regression of Trustworthiness Change (Time 3 - Time 2) on Emotional Sensitivity and State Affect**

IV	Model 1		Treatment		Model 3		Model 1		Control		Model3	
	B	t	B	t	B	t	B	t	B	t	B	t
DV: $\Delta$ Tworth												
ES	.29	1.99	.31	1.89	.45	2.32*	.01	-.13	-.07	-.08	-.07	-.64
NA 2	--	--	.36	2.70*	.45	3.25**	--	--	-.01	-.19	-.02	-.39
NA 3	--	--	-.55	-2.70*	-.65	-3.17**	--	--	.05	.33	-.11	.64
ESxNA2	--	--	--	--	.62	2.01	--	--	--	--	.06	.60
ESxNA3	--	--	--	--	-.72	1.85	--	--	--	--	-.28	-.89
R <sup>2</sup>		.10		.27*		.35*		.00		.00		.03
$\Delta$ R <sup>2</sup>		--		.17		.08		--		.00		.03
DV: $\Delta$ Tworth												
ES	.29	1.99	.30	2.12*	.39	2.66*	.01	-.13			-.06	-.75
PA 2	--	--	-.02	-.10	-.07	.38	--	--	-.06	-.87	-.02	.16
PA 3	--	--	.29	1.64	.29	1.63	--	--	.01	.08	-.11	-.95
ESxPA2	--	--	--	--	.30	.74	--	--	--	--	.00	.00
ESxPA3	--	--	--	--	.30	.79	--	--	--	--	.04	.31
R <sup>2</sup>		.10		.23*		.29*						
$\Delta$ R <sup>2</sup>		--		.13		.07		.00		.11		.01

Note. Treatment  $n = 40$ , Control  $n = 41$ . IV = Independent Variable, DV = Dependent Variable.  $\Delta$  Tworth = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3. ES = Emotional Sensitivity, NA = Negative Affect. ESxNA = the interaction term of Emotional Sensitivity and Negative Affect. PA = Positive Affect, ESxPA = The interaction term of Emotional Sensitivity and Positive Affect. Regression weights are unstandardized.

\* $p < .05$ , \*\*  $p < .01$ .



**Table 6.11 - Regression of Trust Change (Time 3 - Time 2) on Emotional Sensitivity and State Affect**

IV	Model 1		Treatment				Model 1		Control		Model3	
	B	t	B	t	B	t	B	t	B	t	B	t
DV: $\Delta$ Trust												
ES	.14	.88	-.01	-.06	.17	.82	.12	1.12	.18	1.54	.21	1.40
NA 2	--	--	.43	3.10**	.44	2.96**	--	--	-.12	-1.55	-.11	-1.23
NA 3	--	--	-.41	-1.94	-.42	1.90	--	--	.11	.48	.05	.27
ESxNA2	--	--	--	--	.29	.88	--	--	--	--	-.07	-.49
ESxNA3	--	--	--	--	-.53	1.29	--	--	--	--	.24	.54
R <sup>2</sup>	.02		.20*		.25*		.03					
$\Delta$ R <sup>2</sup>	--		.22*		.05		--		.06		.01	
DV: $\Delta$ Trust												
ES	--	--	.15	1.07	.32	2.59*	--	--	.06	.57	.04	.40
PA 2	--	--	-.15	-.83	.01	.08	--	--	.05	.28	.20	1.06
PA 3	--	--	.51	3.02**	.52	3.46**	--	--	-.14	-.95	-.26	-1.48
ESxPA2	--	--	--	--	.58	1.73	--	--	--	--	-.34	-1.32
ESxPA3	--	--	--	--	.50	1.58	--	--	--	--	.33	1.65
R <sup>2</sup>	.02		.31**		.51**		.03					
$\Delta$ R <sup>2</sup>	--		.29**		.21**		--		.05		.07	

*Note.* Treatment  $n = 40$ , Control  $n = 41$ . IV = Independent Variable, DV = Dependent Variable.  $\Delta$  Tworth = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3, ES = Emotional Sensitivity, NA = Negative Affect. ESxNA = the interaction term of Emotional Sensitivity and Negative Affect. PA = Positive Affect, ESxPA = The interaction term of Emotional Sensitivity and Positive Affect. Regression weights are unstandardized.

\* $p < .05$ , \*\*  $p < .01$ .

**Table 6.12 - Regression of Dependent Variables' Change (Time 3 - Time 2) on Promotion Orientation and Positive Affect**

IV	Treatment						Control					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	B	t	B	t	B	t	B	t	B	t	B	t
DV: $\Delta$ Tworth												
Promotion	.03	.45	.01	.12	-.02	-.29	.00	.08	.00	.06	-.00	-.15
PA 2	--	--	-.04	-.21	-.10	-.47	--	--	-.00	-.02	-.04	-.41
PA 3	--	--	.27	1.53	.36	1.81	--	--	.09	-.94	-.07	-.74
PromxPA2	--	--	--	--	-.21	-1.11	--	--	--	--	.06	.81
PromxPA3	--	--	--	--	.20	1.03	--	--	--	--	.02	.20
R <sup>2</sup>		.01		.12		.15		.00		.09		.17
$\Delta$ R <sup>2</sup>		--		.11		.03		--		.09		.08
DV: $\Delta$ Trust												
Promotion	-.01	-.23	-.04	-.80	-.07	-1.26	.04	.97	.04	1.02	.06	1.48
PA 2	--	--	-.12	-.63	-.06	-.30	--	--	.08	.51	.05	.30
PA 3	--	--	.50	2.99**	.50	2.77**	--	--	-.18	-1.30	-.17	-1.24
PromxPA2	--	--	--	--	-.09	-.55	--	--	--	--	.19	1.74
PromxPA3	--	--	--	--	-.05	-.26	--	--	--	--	-.15	-1.40
R <sup>2</sup>		.00		.30		.36		.02		.09		
$\Delta$ R <sup>2</sup>		--		.30**		.07**		--		.07		.07

*Note.* Treatment  $n = 40$ , Control  $n = 41$ . IV = Independent Variable, DV = Dependent Variable.  $\Delta$  Tworth = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3,  $\Delta$  Trust = a difference score created by subtracting T2 Trust from T3 Trust, thus positive values of this variable indicate an increase in Trust from T2 to T3. PA = Positive Affect. PromxPA = the interaction term of Promotion Orientation and Positive Affect. PA = Positive Affect. Regression weights are unstandardized.

\* $p < .05$ , \*\*  $p < .01$ .

**Table 6.13 - Regression of Dependent Variables' Change (Time 3 - Time 2) on Prevention Orientation and Negative Affect**

IV	Model 1		Treatment				Model 1		Control		Model 3	
	B	t	B	t	B	t	B	t	B	t	B	t
DV: $\Delta$ Tworth												
Prevention	.16	2.92**	.14	2.68*	.16	3.23**	.00	-.02	-.02	-.16	.03	.74
NA 2	--	--	.34	2.78**	.35	3.15**	--	--	-.01	-.24	-.01	-.13
NA 3	--	--	-.42	-2.27*	-.45	-2.66*	--	--	.07	.39	-.12	-.52
PrevxNA2	--	--	--	--	.27	3.08**	--	--	--	--	-.01	-.15
PrevxNA3	--	--	--	--	-.35	-3.18**	--	--	--	--	.13	1.11
R <sup>2</sup>	.18**		.32**		.48**		.00		.00		.04	
$\Delta$ R <sup>2</sup>	--		.14*		.16**		--		.00		.04	
DV: $\Delta$ Trust												
Prevention	-.01	.06	<.01	-.09	.02	.37	-.01	-.30	-.01	-.24	.01	.14
NA 2	--	--	.43	3.17**	.43	3.29**	--	--	-.07	-.89	-.07	-.88
NA 3	--	--	-.41	-2.03*	-.46	-2.28*	--	--	.01	.41	.01	.02
PrevxNA2	--	--	--	--	.13	1.53	--	--	--	--	.01	.31
PrevxNA3	--	--	--	--	-.27	-2.07*	--	--	--	--	.04	.21
R <sup>2</sup>	.00		.24*		.32*		.00		.02		.03	
$\Delta$ R <sup>2</sup>	--		.24**		.08		--		.02		.01	

*Note.* Treatment  $n = 40$ , Control  $n = 41$ . IV = Independent Variable, DV = Dependent Variable.  $\Delta$  Tworth = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3,  $\Delta$  Trust = a difference score created by subtracting T2 Trust from T3 Trust, thus positive values of this variable indicate an increase in Trust from T2 to T3. NA = Negative Affect. PrevxNA = the interaction term of Prevention Orientation and Negative Affect. Regression weights are unstandardized.

\* $p < .05$ , \*\*  $p < .01$ .

Regarding the importance of individual difference variables and their relationships with the dependent variables and affect measures, it is difficult to come to a strong conclusion. It is evident that promotion orientation did not have a moderator effect on either trust or trustworthiness, so Hypothesis 7 was not supported. However, Hypotheses 6 and 8, relating to emotional sensitivity and prevention orientation respectively, were not so clear-cut. There was a significant moderation effect at play when  $\Delta$  trust was regressed on emotional sensitivity and PA Time 2 and Time 3, however the proposed moderation was not present when trust was regressed on emotional sensitivity and the NA variables, or at all for trustworthiness. That said, emotional sensitivity was significant in predicting  $\Delta$  trustworthiness when included in a regression with PA variables, just not as a moderator.

Regarding prevention orientation, it is clear that the trustworthiness difference score was significantly influenced by it. There was a direct effect present, both in isolation and when prevention orientation was regressed with negative affect variables, and also a strong moderation effect. However, there was not a significant interaction effect between prevention orientation, NA variables and trust.

Of the three individual difference variables analysed in this section, prevention orientation appears to be the most noteworthy, as it clearly interacts with the negative affect variables to influence trustworthiness. Emotional sensitivity related to positive affect variables and trust. However, when viewed holistically, NA was more influential in trust repair, at least in the context of this study, so effects relating to PA variables may not be particularly important.

### Further Exploratory Analyses

#### Tests of the effects of $\Delta$ mood on $\Delta$ trust controlling for $\Delta$ trustworthiness.

After testing the hypotheses and finding that affect, particularly NA, does indeed seem to play a role in the restoration of trust and perceptions of trustworthiness in this context, some exploratory analyses were conducted to determine whether NA still played a significant role in predicting  $\Delta$  trust when  $\Delta$  trustworthiness was controlled. As previously stated, trustworthiness is a characteristic that the trustee has (Dietz & Den Hartog, 2006). Cues of ability, benevolence and integrity signal to the trustor whether or not the trustee is trustworthy. If the trustor holds the belief that the trustee is indeed trustworthy, it is *likely* (but not guaranteed) that he will trust in that agent (Dietz, 2011). In the case of National Express, if  $\Delta$  NA is still significant in predicting  $\Delta$  trust, even when trustworthiness perceptions attributed to it are controlled, there is evidence to suggest that trust in the organisation is influenced by more than just cognitive evaluation. This would offer an alternative narrative to the extant body of trust research which is primarily cognitive in nature.

Multiple linear regressions were conducted to test this question.  $\Delta$  Trust was regressed on  $\Delta$  NA, and then on both  $\Delta$  NA and  $\Delta$  trustworthiness. Support would entail  $\Delta$  NA remaining significant when  $\Delta$  trustworthiness was included in the regression.

$\Delta$  NA was significant in predicting  $\Delta$  trust, as shown in **Table 6.14**. The direction of the relationship was negative,  $b = -.43$ ,  $t = -3.51$ , and  $\Delta$  NA accounted for around 25% of the variance in  $\Delta$  trust,  $F(1, 39) = 12.33$ ,  $p < .001$ ,  $R^2 = .25$ . The addition

of  $\Delta$  trustworthiness resulted in a model that accounted for over 40% of the variance in  $\Delta$  trust,  $\Delta F(2, 38) = 10.684, p < .001, \Delta R^2 = .17$ . Crucially however, NA remained significant, with a  $b$  of  $-.26, t = -2.19$ .

$\Delta$  NA may partially mediate the relationship between  $\Delta$  trustworthiness and  $\Delta$  trust, and to test this possibility a bootstrapped (5000 iterations) mediation analysis using Hayes' (2012) Process macro for SPSS was conducted. Confidence intervals (95%) of the indirect effect of the relationship between  $\Delta$  trustworthiness and  $\Delta$  trust via  $\Delta$  NA suggested that a mediation effect was evident, 95% CI [.006, .418], with an effect of .13.

**Table 6.14 - Regressions of Trust Change (Time 3 – Time 2) on Negative Affect Change (Time 3 – Time 2) and Trustworthiness Change (Time 3 – Time 2)**

IV	Treatment				Control			
	Model 1		Model 2		Model 1		Model 2	
	B	t	B	t	B	t	B	t
$\Delta$ NA	-.43	-3.51***	-.26	-2.14*	.09	1.22	.09	1.82
$\Delta$ TW	--	--	.47	3.27**	--	--	-.11	1.22
$R^2$	.25***		.42***		.04		.05	
$\Delta R^2$	--		.17***		--		<.01	

Note. Treatment  $n = 40$ , Control  $n = 41$ . IV = Independent Variable,  $\Delta$  = a difference score created by subtracting T2 variables from T3 variables, thus positive values of variables indicate an increase from T2 to T3. NA = Negative Affect, TW = Trustworthiness.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

With regards to PA, the assertion that  $\Delta$  PA would still predict  $\Delta$  trust, whilst controlling for  $\Delta$  trustworthiness was not supported.  $\Delta$  PA was significant in predicting  $\Delta$  trust, and the direction of the relationship was positive,  $b = .39, t = 2.21$ . However, when  $\Delta$  trustworthiness was included in the regression, it rendered the effect of  $\Delta$  PA nonsignificant,  $b = .25, t = 1.90$ . These results are displayed in **Table 6.15**.

**Table 6.15 - Regressions of Trust Change (Time 3 – Time 2) on Positive Affect Change (Time 3 – Time 2) and Trustworthiness Change (Time 3 – Time 2)**

IV	Treatment				Control			
	Model 1		Model 2		Model 1		Model 2	
	B	t	B	t	B	t	B	t
$\Delta$ PA	.39	2.21*	.25	1.90	-.17	-1.11	-.19	-1.17
$\Delta$ TW	--	--	.54	4.20***	--	--	-.10	-.58
R <sup>2</sup>	.11		.40***		.03		.04	
$\Delta$ R <sup>2</sup>	--		.29***		--		<.01	

*Note.* Treatment  $N = 39$ , Control  $N = 41$ . IV = Independent Variable,  $\Delta$  = a difference score created by subtracting T2 variables from T3 variables, thus positive values of variables indicate an increase from T2 to T3. PA = Positive Affect, TW = Trustworthiness.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

### Discussion

Firstly, it is important to note that there did indeed appear to be (a) a trust breach, indicated by a significant decrease in trust and perceptions of trustworthiness from Time 1 to Time 2 in both groups, and (b) a trust repair effect, indicated by the differential recovery in levels of trust and perceptions of trustworthiness from Time 2 to Time 3.

Regarding the influence of affect on trust and trustworthiness, state affect, particularly negative, appears to predict trust and perceived organisational trustworthiness to a greater extent than trait affect. NA was significantly negatively related to both trust and perceived trustworthiness, and the difference between NA at Time 2 and Time 3 appears to be particularly significant in predicting  $\Delta$  trust and  $\Delta$  trustworthiness. In regressions of the dependent variable difference scores (Time 3 – Time 2) on explicit state NA at Times 2 and 3, the Time 2 affect  $b$  was invariably positive, and the Time 3  $b$  would be negative. This suggests a genuine difference score effect (Edwards, 1994). Put differently, participants in this study were more likely to show greater trust and perceived trustworthiness after the trust repair response compared to after the trust failure when their levels of NA had decreased from Time 2 to Time 3. Furthermore, NA remained a significant predictor of  $\Delta$  trust even when cognitive evaluations of trustworthiness were included in analyses. This is particularly significant in terms of the question of the importance of affect in the trust repair

process. Moreover, there appears to be a mediation effect present, as NA related directly to both perceptions of trustworthiness and willingness to trust, and indirectly to willingness to trust through perceptions of trustworthiness.

Interestingly, NA remained at a higher level at Time 3 in the treatment group than in the control group, and the difference between the treatment group mean and the control group mean was statistically significant,  $F(1, 53.35) = 29.77, t = 3.58, p < .001$ . Hence, even though the NA difference score seemed particularly important in predicting increased trust and perceived organisational trustworthiness at Time 3, NA remained comparatively higher in the treatment group than the control group. In sum, although participants in the treatment group had greater recoveries in trust and trustworthiness on average than their control group counterparts, they also had a higher and statistically greater level of NA after the trust repair manipulation than control group participants who saw a filler video clip. The CEO's interview may have had a trigger effect on participants, reminding them of the crash, making it more salient and raising levels of NA. If this is the case, it could be that the trust repair attempt actually had a negative influence on some participants. In the literature, trust repair is generally perceived as a positive action, although some responses may be sub-optimal, and there is still debate over when certain responses may be preferable to others. For example, some scholars posit that after an integrity failure an organization should be willing to offer a sincere apology and pay penance (Gillespie & Dietz, 2009; Gillespie et al., 2014). Others suggest that denial is a preferable response (Poppo & Schepker, 2010). Still, I generally agree that doing *something* is better than doing nothing at all (Elangovan et al., 2015; Ferrin et al., 2007). However, admitting wrongdoing or committing to substantive organizational changes in response to a transgression may have profound emotional consequences for stakeholders. Gillespie et al. (2014) suggest that it is important for organisations to allow and help their employees work through negative emotions and identity issues in the aftermath of trust repair attempts. However, they also note that this idea has received scant attention in the literature to date. Although this study did not involve employees, it did suggest that trust repair efforts may actually increase NA in potential stakeholders (in this case, potential customers) even if they appear to “work”. It could be argued that if such effects occur in scenarios that include passive observers who are not necessarily personally affected

or influenced by the situation, they may be stronger for those actively involved in such a process. This is certainly an avenue that warrants further investigation.

Trait affect was found to have no significant relationship with the dependent variables at the .05 level either as a lone predictor or when included in analyses with state measures. Forgas (1998) posited that dispositional influence may override state mood, and therefore mood may not affect individual cognition and behaviour because a person's traits are more ingrained, and therefore stronger, than the more transitory influence of passing moods. However, people tend to weigh negative information and moods more heavily than positive ones (Ito, Larsen, Smith & Cacioppo, 1998; Kim et al., 2009). In this case, the crash may have caused an increase in negative mood and made state affect more salient, and thus more influential, than trait affectivity. In relation to feelings-as-information theory, participants may have processed situational information by asking themselves: "how do I feel about it?" at each time point. If they felt better, or less bad, about it at Time 3 than Time 2, then this information would likely be more salient to them than a baseline trait or state mood at Time 1.

Although trait affect did not seem to be a significant predictor of either trust or trustworthiness, and I have not been able to disentangle the influence of implicit affect, the findings of this study add to the literature on trait x state interactions and their influence on cognitive outcomes, as called for in the organisational literature (Salovey & Mayer, 1990; Van Knippenberg, Kooj-de Bode & van Ginkel, 2010).

While NA related strongly to both dependent variables, PA was a significant predictor of trust yet not of trustworthiness, at least in its explicit form. This implies that whilst positive affect may not be particularly influential in explicitly affecting one's perceptions of an organisation, it may play a role in influencing an individual's *behavioural intentions* towards it. This could be explained by the assertion that people with high PA are more likely to have a positive concept of themselves and the world around them (Watson, 2002), so they may be more willing to trust and less likely to think that bad things may happen to them. This could be particularly salient in the National Express scenario, in which trust is operationalized as willingness to use or rely on the company to get participants to a destination on time or safely, and the likelihood of using it at all. Those with high PA may be less likely to be affected by the crash and less likely to assign blame to the company for it, and may therefore be more likely to be willing to trust National Express with the expectation that nothing



bad will happen to them in doing so. However, when  $\Delta$  PA was included in a regression with the  $\Delta$  trustworthiness to determine if it would still be predictive of  $\Delta$  trust, results indicated that the effect of the PA variable was subsumed by that of the trustworthiness variable. In short,  $\Delta$  PA was no longer a significant predictor of  $\Delta$  trust. This finding does not support prior empirical evidence that positive affect is particularly important in trust repair (Bottom et al., 2002; Chen et al., 2013).

Two non-trust related individual difference measures were included in the current study, emotional sensitivity and regulatory focus. Regulatory focus appeared to be the more relevant of these. Emotional sensitivity played a role in influencing  $\Delta$  trust in a regression model with PA Time 2 and Time 3 variables. Specifically, emotional sensitivity and PA Time 3 were significant predictors of  $\Delta$  trust. However, as stated in the previous paragraph, as PA was not particularly influential in predicting either trust or trustworthiness this finding may not be particularly relevant.

In terms of regulatory focus, there was a moderation effect of prevention focus with NA, on trustworthiness, but not on trust. Interestingly, there appears to be a difference effect, as both analyses show that prevention x NA T2 have positive *b*-values in relation to predictions of willingness to trust and perceived organizational trustworthiness change, yet prevention x NA T3 *b*-values are negative. However, the regression of  $\Delta$  trustworthiness on prevention orientation showed a significant, positive relationship between the two variables. This effect was not present for the regression of  $\Delta$  trust on prevention orientation. The positive relationship between prevention orientation and  $\Delta$  trustworthiness is perplexing. It may be that participants with higher levels of prevention orientation are reassured by the CEO's performance and needed reassurance after the transgression that the company were taking steps to make amends and try to ensure that such an accident would not occur again. Indeed, the content of the CEO's response may have been particularly appealing to those with high levels of prevention orientation. Regulatory focus theory suggests that prevention orientation is related to sensitivity regarding negative outcomes and vigilance relating to environmental cues towards potential losses (Higgins, 1998). Furthermore, it has been suggested that prevention-focused individuals, through having an "ought to" mentality, tend to respect normative standards (Higgins, 1998). It is possible that the CEO, in explaining National Expresses' position in regard to taking all of their coaches off the road to check them with a team of engineers and working with authorities to

determine what went wrong, was able to signal that the organization is adhering to normative standards by ensuring that their coaches are safe and taking cautious, precautionary measures that would likely appeal to prevention-orientated people. Thus, they have a higher opinion of the organisation in regards to their cues of trustworthiness. This theory will be tested in the next study by including measures of the CEO's performance and determining whether it mediates the relationship between prevention focus and trustworthiness. Another explanation could be that prevention-focused individuals simply paid more attention to what the CEO was saying, whereas highly promotion-focused people may have followed internal cues (i.e. a gut feeling heuristic).

### **Limitations**

This study was not without its limitations. Firstly, the sample size was rather small ( $N = 82$ ), especially for analyses conducted separately on the two groups. To have adequate statistical power, a greater number of subjects is required. Secondly, although affect was measured, it was done so with a cognitive instrument (i.e., the PANAS). A measure of implicit affect was also included, but unfortunately I have thus far been unable to disentangle its significance. Specifically, I am unsure as to whether the results obtained from it are genuine but somewhat anomalous, or whether they are the result of statistical artefact caused by correlated errors. Fourthly, the difference score approach I have used for a number of analyses has been criticised for having several methodological flaws, with polynomial regression being suggested as an alternative method (Edwards & Parry, 1993; Edwards, 1994; 2001). However, as polynomial regressions can often contain a lot of terms, large samples are needed to test for statistical power (Edwards, 1993; 2001). Plainly the  $N$  of the current sample is too small to consider this analytic approach. Finally, the stimulus presented in this study was somewhat dry, and it would not necessarily have particular salience to the participants involved; they were not *active* in the process. However, one could argue that if significant effects are present in a scenario in which participants are simply passive observers, they are likely to be greater in situations that are more salient to those involved. A larger sample and additional measures are required to (a) determine whether the current results are replicable and (b) further understand the relationship between affect, trustworthiness and trust

## Chapter Summary and Implications for Study 2

The current chapter detailed the first empirical study of my thesis. Study 1 was undertaken to get a sense of what role affect plays in the trust repair process, if any. Results suggest that affect, particularly NA, is indeed important in such a process, even when cognitive evaluations of trustworthiness are taken into account. With this being the case, Study 2 was undertaken to further understand the relationship between affect, individual difference measures, trustworthiness and trust. For Study 2, the same experimental procedure and stimulus were used in an attempt to replicate results. Although, as suggested in the limitations, using the same experimental procedure does not present participants with a salient scenario, doing so enabled me to see if results replicate with a larger sample and additional measures. Depending on the results of Study 2, Study 3 could attempt to present participants with a more salient situation.

In terms of new measures added for Study 2, one of these was a measure of CEO performance, which could be used to better understand the relationship between affect, prevention orientation, trust and trustworthiness. Items related to what extent emotional reactions were elicited by the CEO's response (e.g. how reassured participants were by it, whether it actually increased negative affect etc.), how competent his performance was (e.g. was the response appropriate? Did he represent the organisation well?), and to what extent the subjects liked him, were added. Furthermore, although Study 1 included a measure of emotional sensitivity, that is, to what extent participants were sensitive to nonverbal cues, it did not measure to what extent they were aware of their *own* emotions. Thus, measures such as the emotionality subscale of the Emotionality, Activity, Sociability Impulsivity (EASI) scale (Buss & Plomin, 1984) and the Private Body Consciousness subscale of Miller, Murphy and Buss' (1981) Body Consciousness Questionnaire were used to assess participants' inner emotionality.

## **Chapter 7: Study 2 – A Replication and Extension of Study 1**

Study 1 was undertaken to get a sense of what role affect plays in the trust repair process, if any. Results suggested that affect, particularly NA, is indeed important in such a process, even when cognitive evaluations of trustworthiness are taken into account. Study 2 attempted to further understand the relationship between affect, individual difference measures, trustworthiness and trust. The experimental procedure and stimuli from Study 1 were used again in an attempt to replicate results. A larger sample was solicited in order to increase statistical power, and new measures were included to gauge the effects of differential emotions, as well as individual differences in emotional reactivity.

In the following sections, I first cover hypotheses replicating the relationships in Study 1 among mood, trust and trustworthiness, and the moderation effects of prevention orientation on trust and trustworthiness. Then I extend these ideas to consider differential emotions and individual differences in emotional reactivity.

### **Hypotheses**

#### **Mood, Trust, and Trustworthiness**

The relationship between  $\Delta$  NA and  $\Delta$  trust was previously tested in Study 1 as part of exploratory analyses. Results showed that  $\Delta$  NA was significant in predicting  $\Delta$  trust even when  $\Delta$  perceptions of trustworthiness was controlled. Based on these results, it was decided that this relationship should be tested again to see if they could be replicated, leading to the following hypothesis:

Hypothesis 1:  $\Delta$  NA will be a significant indicator of  $\Delta$  trust even when  $\Delta$  perceptions of trustworthiness are controlled.

#### **Regulatory Focus, Trust and Trustworthiness**

In Study 1, prevention-focus was found to moderate the relationship between NA variables and  $\Delta$  trustworthiness, yet not NA variables and  $\Delta$  trust. The same relationship was expected to occur again with regards to  $\Delta$  trustworthiness. Furthermore, given the larger sample and the motivational orientation of willingness

to trust, I expected prevention orientation to also moderate the relationship between NA variables and  $\Delta$  trust:

Hypothesis 2: Prevention-focus will moderate the relationship between NA variables (Time 1 and Time 2) and a)  $\Delta$  trustworthiness and b)  $\Delta$  trust.

### **Differential Emotions, Trust, and Trustworthiness**

The key distinctions between emotion and state affect (or mood) are that emotions are targeted and tend to be short-lived and intense in nature, while mood is not caused by or focused on an object, and tends to be weaker in strength than emotion. In this respect, if mood, and particularly change in mood is predictive of  $\Delta$  trust, one would expect change in differential emotions to also be predictive of  $\Delta$  trust. Furthermore, given that participants' emotional response to the bus crash and subsequent perceptions are likely to be triggered by their feelings towards the event and the company rather than simply a general mood state, it was predicted that change in differential emotions would be *more* predictive of  $\Delta$  trust than change in mood state. This reasoning led to the following predictions:

Hypothesis 3a: Change in the differential emotions of anger, sadness, joy, calmness, fear and contempt will predict  $\Delta$  trust, even when  $\Delta$  perceptions of trustworthiness are controlled.

Hypothesis 3b: Change in the differential emotions of anger, sadness, joy, calmness, fear and contempt will have an incremental effect over and above those of  $\Delta$  NA in predicting  $\Delta$  trust, even when  $\Delta$  perceptions of trustworthiness are controlled.

### **Emotional Reactivity, Trust and Trustworthiness**

**Affect intensity.** In Study 1, emotional sensitivity moderated the relationship between PA and  $\Delta$  trust, but this was the only statistically significant relation found for this variable. *Emotional sensitivity* is the extent to which people are able to pick up on non-verbal cues in environment. On the other hand, *affect intensity*, in this context, is the umbrella term that reflects the degree and intensity to which people respond to events in an emotional manner. In this respect, whilst emotional sensitivity is outward-

facing in that it reflects the extent to which people are able to pick up emotional cues in their environment, *affect intensity* is inward-facing, relating to how intensely and frequently they feel emotions.

*Affect intensity* is an individual difference that has been reported to have a direct relationship with emotional responses (Larsen & Diener, 1987), and attitude formation is often influenced by the emotions that one experiences (Moore, Harris & Chen, 1995). In addition, people who are high in *affect intensity* have been found to demonstrate greater levels of cognitive and affective responses to both emotional and non-emotional advertising stimuli than their low *affect intensity* counterparts (Geuens & De Pelsmacker, 1999). Prior research into affect intensity indicates that it is a multidimensional construct (Rubin, Hoyle & Leary, 2012; Weinfurt, Bryant & Yarnold, 1994). I return to this point in the Measures section, but for the purposes of hypothesis development, note that the dimensions of affect intensity I analyse in Study 2 are *negative reactivity* and *emotional intensity*. Negative reactivity relates to the extent to which people generally feel strong negative emotions, making it a fairly direct operationalization of Larsen and Diener's (1987) conceptualisation of affect intensity (Rubin et al., 2012). Emotional intensity relates to whether people generally respond to situations calmly as opposed to emotionally (Rubin et al., 2012). Generalizing to the context of this study, I expected that:

Hypothesis 4a: Negative reactivity will moderate the relationship between  $\Delta$  NA and  $\Delta$  trust. People high in negative reactivity will be more likely to report high levels of NA, and will be less likely to trust than those low in negative reactivity.

Hypothesis 4b: Emotional intensity will moderate the relationship between  $\Delta$  NA and  $\Delta$  trust. People high in emotional intensity will be more likely to report high levels of NA, and will be less likely to trust than those low in emotional intensity.

**Private body consciousness.** This construct has been shown to be an important determinant of behaviour (Miller et al., 1981), and Miller et al. (1981) suggest that it may influence excitation transfer. Excitation transfer involves levels of arousal from one source transferring to and influencing subsequent emotional states (Miller et al., 1981). These authors posit that people high in PBC should be more susceptible to

excitation transfer than those who are low, due to their heightened awareness of interoceptive feedback (interoception being “*the sense of the internal physiological condition of the body*”; Seth, 2013: 565). This relates to the somatic-marker hypothesis, which suggests that bodily states and feelings bias thoughts and decisions (Damasio, 1994; 1996). In this respect, I proposed:

Hypothesis 5: PBC will moderate the relationship between the negative emotion variable difference scores from Time 2 to Time 3, and the trust difference scores from Time 2 to Time 3.

**Perceptions of trust repair effort.** Although both trust and trustworthiness increased from Time 2 to Time 3 in Study 1, it was not possible to ascertain exactly why this happened. In Study 2, the inclusion of items related to perceptions of the trust repair effort may offer insight into why certain processes occur. For example, if Study 1 results replicate in Study 2, and prevention-focus is found to relate positively to the dependent variables, then perceptions of the trust repair response may offer an explanation as to why this somewhat unusual relationship occurred.

As detailed in the literature review, there are a number of responses that organizations and their leaders can offer in order to attempt to rebuild trust after it has been broken. Previous research has shown that such efforts can be successful in rebuilding trust. In the aftermath of the National Express coach crash that formed the trust failure stimulus of this study, the company’s CEO expressed remorse for the accident, implied that National Express was adhering to normative standards by working with engineers and the relevant authorities to determine what caused the crash and to try to make sure it does not happen again, and repeatedly stressed that safety is National Expresses’ number one concern. It was necessary to determine how the participants perceived the CEO’s interview, and therefore items related to perceptions of his performance were included in the study. It was expected that:

Hypothesis 6. Perceptions of the CEO’s trust repair effort will a) directly influence  $\Delta$  trust, b) will influence  $\Delta$  trust via  $\Delta$  NA, and c) will influence  $\Delta$  trust via  $\Delta$  perceived organizational trustworthiness.

## Methodology

**Participants.** As in Study 1, participants were recruited via Prolific Academic. A pre-experiment survey was sent to participants at Time 1, and the experiment was conducted a week later. In an attempt to assure data quality, attention filter questions were included in each part of the study, as proposed as good practice by Oppenheimer et al. (2009) when conducting experimental studies. 263 participants completed both parts of the experiment. After conducting outlier and normality tests, ten participants were excluded from analysis, leaving a dataset of 253 responses. As in Study 1, subjects were randomly assigned to a treatment or control group by using a random number generator.

**Table 7.1** displays the sample's demographic information. The majority of participants were female (56%), and the most frequent age category was the 20-29 range (40%), followed by the 30-39 age range (26%). 35% of the sample had attained a bachelor's degree level of qualification, 30% had obtained A-level qualifications and 17% had attained a Postgraduate qualification, suggesting that the participant pool was, on average, more educated than the general UK population (Department for Business Innovation and Skills, 2015). Independent samples t-tests were conducted and results indicated that there were no statistically significant between-condition differences on demographics. Degrees of freedom for the t-tests ranged from 235 to 251.



**Table 7.1 – Demographic Statistics**

	Treatment				Control			
	M	SD	N	%	M	SD	N	%
Gender	1.15	.51	122	100	1.53	.51	131	100
Male (1)			52	42.6			58	44.3
Female (2)			70	57.4			73	55.7
Age Category	2.61	1.15	122	100	2.64	1.11	131	100
Under 20 (1)			18	14.8			14	10.7
20-29 (2)			46	37.7			57	43.5
30-39 (3)			33	27.1			33	25.2
40-49 (4)			19	15.6			18	13.7
50-59 (5)			4	3.3			7	5.3
60-65 (6)			1	0.8			2	1.5
Over 65 (7)			1	0.8			0	0
Education Level	3.49	1.18	122	100	3.47	1.17	131	100
GCSEs (1)			13	10.7			12	9.2
Vocational Qualification (2)			6	4.9			9	6.9
A Level Qualification (3)			33	27.1			43	32.8
Degree or Graduate Qual. (4)			51	41.8			39	29.8
Postgraduate Education (5)			17	13.9			28	21.4
No Formal Qualifications (6)			2	1.6			0	0
Employment Status	3.67	2.12	122	100	3.79	2.10	131	100
Student: Full-time (1)			37	30.3			36	27.5
Student: Part-time (2)			5	4.1			6	4.6
Employed: Full-time (3)			44	36.1			46	35.1
Employed: Part-time (4)			7	5.7			12	9.2
Self-employed (5)			13	10.7			12	9.2
Not in employment or education (6)			16	13.1			19	14.5
Heard of National Express?	1.07	.25	116	95.1	1.04	.20	121	92.4
Yes (1)			108	88.5			116	88.5
No (2)			8	8.6			5	3.8
Travelled with National Express	1.52	.50	117	95.9	1.43	.50	123	93.9
Yes (1)			56	45.9			70	53.5
No (2)			61	50.0			53	40.5

*Note.*  $N = 253$ . Independent group t-tests (degrees of freedom ranging from 235 to 251) showed that none of these differences were significant

### Measures

In Study 1, the dependent variables considered were *willingness to trust* and *perceptions of organizational trustworthiness*. In Study 2, these were measured the same way. The Positive and Negative Affective Schedule (*PANAS*; Watson et al., 1988) was used to measure participant mood. Furthermore, *implicit affect* was also

measured using a word-stem completion task. A number of individual difference measures were also considered based on Study 1 findings, namely *regulatory focus*, *propensity to trust*, *emotional sensitivity*, and *trait affect*. *Trait affect* and *trust propensity* measures were included in Study 2 even though they did not have any substantive influence in any of the hypotheses tests conducted in Study 1. Analyses were conducted with these measures prior to hypothesis testing that found that, as in Study 1, they did not relate significantly to the dependent variables of trust or trustworthiness, thus they were not considered for further analysis.

Four new measures were introduced in this study pertaining to emotionality, namely the *Private Body Consciousness Questionnaire* (Miller et al., 1981) and the *negative reactivity and emotional intensity* subscales of the Affect Intensity Measure (Larsen & Diener, 1987) were included. In addition, Izard's (1977) *Differential Emotions Scale* (DES) was adapted for use in this study. Furthermore, items related to *perceptions of the trust repair effort* were also used. Three of these were adapted from Coombs and Holladay's Organizational Reputation Scale (2002), with the target changed from an organization to an individual (in this case, the CEO of National Express). All of the new Study 2 measures and their sub-items are included in **Appendix E**.

*Affect intensity*. Study 2 used a multidimensional version of the Affect Intensity Measure (AIM; Larsen & Diener, 1987). Rubin et al. (2012) presented a review of multidimensional versions of the measure and conducted a study that also supported the superiority of a four-factor structure over a higher-order latent variable. The four factors suggested in the study conducted by Rubin and colleagues (2012) were: *negative reactivity*, *negative intensity*, *positive affectivity* (or *serenity*) and *positive intensity*. The two positive factors were not considered in the current study because I wanted to focus on *negative reactivity* and *negative intensity*. This decision was also taken with a view to attempt to reduce the risk of respondent fatigue by keeping the survey at a reasonable length. The Cronbach's alpha results of the negative reactivity and negative intensity ranged from .76 to .86 in previous studies.

The "*negative intensity*" factor of the AIM appears to measure the extent to which people are prone to react in an emotionally as opposed to calmly in general situations. Items include: "my emotions tend to be more intense than those of most people", "my friends might say I'm emotional", "my friends might say I'm an intense

or “high-strung” person” and “calm and cool could easily describe me (reverse scored)”. It actually appears that the items relate to the extent to which an individual feels emotional in general rather than how they feel negative emotions, specifically. This point was also made by Rubin and colleagues (2012), so for the purpose of this study, the sub-scale was named “*emotional intensity*” rather than “*negative intensity*.”

*Differential emotions.* For the current study, Izard’s (1977) DES measure was adapted to measure how people felt when they thought about National Express. The subscales of sadness, fear, anger, contempt, joy and calmness were included. The negative emotional subscales were chosen for their perceived relevance to the context of a coach company involved in a crash. Joy was included to give some balance as a positive emotion. Although not included in Izard’s (1977) original measure, calmness was included in Study 2 as a means to provide an emotion that would fit between the negative specific emotional variables and joy, both in terms of valence and arousal, and to ascertain whether the trust repair response had a calming effect on participants and whether or not that would predict trust.

*Private body consciousness (PBC).* This sub-scale (Miller, Murphy & Buss, 1981) was one of the earliest of the body awareness scales to be developed, and one of only two to have been used more than a few times (Mehling, Gopisetty, Daubenmier, Price, Hecht & Stewart, 2009). It is a 5-item sub-scale for a “disposition to focus on internal bodily sensations”, “being aware of interoceptive feedback” and being “sensitive to changes in bodily states”. Moreover, PBC was not found to correlate with emotionality (Mehling et al., 2009), minimising the risk of a statistical artefact occurring due to endogeneity. Internal reliability of the instrument has been shown to be satisfactory in a number of studies. In the original paper by Miller and colleagues (1981), the PBC had a test-retest reliability of .69. In subsequent studies, internal reliability has ranged from .69 to .75.

*Perceptions of CEO’s trust repair response.* As perceptions of leaders’ responses to crises are situational and often domain-specific (a leader might be considered “competent” in dealing with a crisis, but not in other aspects of day-to-day leadership of an organization), it has been difficult to find an established scale to measure perceptions trust repair that would be appropriate for use in the current study. As such, I have developed a scale for this study. Three items were adapted from

Coombs and Holladay's Organizational Reputation Scale (2002), with the rating target changed from an organization to an individual (the CEO):

- Do you believe that the CEO is basically dishonest? (r)
- Do you believe that the CEO's response was appropriate?
- Do you believe that the CEO cares about his public?

Other measured items related to liking, sincerity, general competence and communication skills, how the response made participants feel regarding the crash, and whether or not the CEO wanted to make sure that a similar event does not happen in the future. These items were chosen because they included questions related to the CEO's ability, benevolence and integrity, as well as participants' feelings related to his response so as to include an emotional component.

## Results

As a first step in the data analysis, descriptive statistics and correlations were computed. Next, to determine if there was a significant trust breach and subsequent trust repair effect, ANOVA analyses were conducted. Hypotheses were tested using hierarchical linear regressions. It should be noted that the regressions presented in the hypothesis testing section of the results were conducted separately for the treatment and control groups, and that all regression coefficients displayed are unstandardized. Full sample analyses were also conducted; however the results appear to simply be an average of the treatment and control group effects and thus do not add anything of substantive value to the discussion.

**Descriptive statistics.** Full sample Cronbach's alphas, means and standard deviations are displayed in **Table 7.2**. Cronbach's alphas all fall within an acceptable range, with the lowest value for contempt at Time 1, with an alpha score of .60.

Split-sample treatment and control descriptive information is shown in **Table 7.3**, along with independent sample t-tests to determine if there were any significant between-condition mean differences.

Independent samples t-tests showed that there were a number of significant between-condition mean differences (see **Table 7.3**). A number of these would be expected, such as mean values for NA and each of the negative differential emotion

mean scores (fear, sadness, anger and contempt) being significantly higher in the control group than the treatment group at Time 3 (i.e. post-trust repair effort). Trust and trustworthiness means were statistically significantly higher in the treatment group at Time 3 than in the control group. Again, this was expected and suggests that there was a trust repair effect. However, the mean level of trust was also higher at Time 2 (i.e. post-violation) in the treatment group compared to the control group to a statistically significant degree. Furthermore, the fear, anger, sadness and contempt baseline mean scores at Time 1 were all significantly higher in the control group than the treatment group, as was prevention orientation. This may indicate that the control group was more prone to negativity in general than the treatment group. However, at Time 2 there were no statistically significant between-condition mean differences relating to any of the emotions.

**Table 7.2 - Full-Sample Descriptive Statistics and Cronbach's Alphas**

	Time 1			Time 2			Time 3		
	M	SD	$\alpha$	M	SD	$\alpha$	M	SD	$\alpha$
Trust	4.11	.76	.85	3.38	1.04	.92	3.43	1.10	.94
Trustworthiness	3.66	.60	.91	3.28	.65	.91	3.38	.70	.94
Trust Repair Rating <sup>^</sup>	--	--	--	--	--	--	3.78	.56	.92
Positive Affect	2.43	.84	.90	1.86	.70	.88	1.89	.72	.90
Negative Affect	1.22	.40	.87	1.71	.70	.91	1.46	.60	.92
Implicit PA	--	--	--	--	--	--	0.22	.11	--
Implicit NA	--	--	--	--	--	--	0.22	.10	--
Fear	1.10	.32	.75	2.19	1.04	.93	1.62	.78	.91
Sadness	1.17	.47	.82	3.05	.93	.69	2.11	.90	.83
Anger	1.09	.32	.66	2.11	.93	.90	1.61	.79	.91
Joy	2.70	1.06	.90	1.15	.36	.70	1.34	.56	.79
Calmness	3.37	.95	.86	1.63	.72	.77	2.03	.86	.81
Contempt	1.26	.51	.60	1.99	.90	.85	1.64	.77	.89
Emotional Intensity	3.23	.91	.83	--	--	--	--	--	--
Negative Reactivity	3.72	.98	.83	--	--	--	--	--	--
Promotion	6.33	1.42	.90	--	--	--	--	--	--
Prevention	5.50	1.57	.82	--	--	--	--	--	--
PBC	3.55	.69	.69	--	--	--	--	--	--

*Note.*  $N = 253$ , <sup>^</sup> = Treatment group only ( $n = 122$ ), NA = Negative Affect, PA = Positive Affect, PBC = Private Body Consciousness.

**Table 7.3 - Treatment and Control Group Descriptive Statistics and Independent Samples T-tests**

Variable	Treatment Group		Control Group		t
	M	SD	M	SD	
1. Trust, T1	4.19	.66	4.04	.83	1.58
2. Trust, T2	3.51	1.02	3.24	1.05	2.04*
3. Trust, T3	3.63	1.02	3.25	1.15	2.75**
4. Trustworthiness, T1	3.64	.52	3.68	.67	-.54
5. Trustworthiness, T2	3.27	.62	3.28	.68	-.11
6. Trustworthiness, T3	3.50	.59	3.28	.76	2.59**
7. PA, T1	2.37	.88	2.49	.81	-1.13
8. PA, T2	1.86	.71	1.87	.69	-.01
9. PA, T3	1.82	.71	1.95	.72	-1.35
10. NA, T1	1.18	.34	1.25	.43	-1.36
11. NA, T2	1.68	.67	1.75	.74	-.74
12. NA, T3	1.41	.52	1.50	.67	-1.17
13. Implicit PA	.23	.10	.21	.11	1.63
14. Implicit NA	.23	.10	.21	.10	1.97*
15. Fear T1	1.05	.20	1.15	.40	-2.57
16. Fear T2	2.10	1.01	2.27	1.07	-1.29
17. Fear T3	1.47	.60	1.78	.90	-3.12**
18. Sadness T1	1.09	.20	1.24	.60	-2.66**
19. Sadness T2	3.01	.95	3.10	.90	-.67
17. SadnessT3	2.00	.81	2.22	.96	-2.04*
18. Anger T1	1.05	.20	1.13	.39	-2.14*
19. Anger T2	2.13	1.10	2.28	1.09	-1.14
20. Anger T3	1.47	.69	1.74	.86	-2.77**
21. Contempt T1	1.19	.41	1.33	.58	-2.26*
22. Contempt T2	1.90	.92	2.07	.87	-1.53
23. Contempt T3	1.49	.69	1.77	.83	-2.84**
24. Joy T1	2.67	1.01	2.72	1.10	-.34
25. Joy T2	1.13	.36	1.17	.36	-.87
26. Joy T3	1.31	.51	1.36	.61	-.66
27. Calmness T1	3.40	.87	3.34	1.01	.49
28. Calmness T2	1.61	.70	1.65	.73	-.41
29. Calmness T3	2.09	.86	1.97	.85	1.12
30. Emotional Intensity	3.17	.87	3.29	.94	-1.05
31. Negative Reactivity	3.70	1.00	3.76	.97	-.45
32. Promotion	6.32	1.41	6.36	1.44	-.26
33. Prevention	5.45	1.33	5.81	1.40	-2.13*
33. PBC	3.53	.68	3.57	.70	-.44

Note:  $N = 253$ .  $df$  ranged from 182 to 251, PA = Positive Affect, NA = Negative Affect, PBC = Private Body Consciousness.

\*  $p < .05$ , \*\*  $p < .01$ .

**Table 7.4** shows bivariate correlations between the individual difference variables of interest and Time 2 and Time 3 independent (affect, differential emotion and trust repair perceptions variables) and dependent variables (perceptions of organizational trustworthiness and willingness to trust). Time 1 independent and dependent variable measures were not included due to space limitations, and given that the hypotheses relate to the change relationships between independent and dependent variables from Time 2 to Time 3. Furthermore, variables that did not prove to be influential in Study 1, such as those related to PA, trust propensity and promotion-orientation, were also excluded to save space.

Analysis of **Table 7.4** indicates that prevention-orientation had moderate negative relations with trust at both Time 2 ( $r = -.15, p = .017$ ) and Time 3 ( $r = -.16, p = .011$ ), and with trustworthiness at Time 2 ( $r = -.17, p = .006$ ). These results were the opposite of Study 1, in which the relationships were positive. Of the new measures included in the current study, the differential emotions appeared to correlate with trust and trustworthiness at Times 2 and 3, with the exception of joy at Time 2, which did not significantly correlate with either willingness to trust or perceptions of organizational trustworthiness. The CEO's trust repair response measure had statistically significant positive relations with willingness to trust and perceptions of organizational trustworthiness at both Time 2 (willingness to trust  $r = .40, p < .001$ , perceptions of trustworthiness  $r = .50, p < .001$ ) and Time 3 (willingness to trust  $r = .46, p < .001$ , perceptions of trustworthiness  $r = .68, p < .001$ ). Emotional intensity and negative reactivity both had statistically significant negative correlations with trust at Time 2 (intensity  $r = -.20, p < .001$ , reactivity  $r = -.14, p = .026$ ) and emotional intensity also correlated negatively with trust at Time 3, ( $r = -.19, p = .002$ ), yet negative reactivity did not ( $r = -.11, p = .081$ ). Neither of these variables correlated significantly with trustworthiness at either Time 2 or Time 3, perhaps supporting the proposal that willingness to trust involves an emotional component that perceptions of trustworthiness lacks.

PBC did not correlate directly with either trust or trustworthiness at either Time 2 or Time 3. However, PBC did correlate positively with the “negative” differential emotion variables of anger, fear and sadness at both time points, and contempt at Time 2, and negatively with the calmness variable at Time 2.



**Table 7.4 - Study 2 Bivariate Intercorrelations**

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1.TR2	94	69	72	40	-33	-35	-10	-02	-29	-44	34	42	-30	-39	-35	-38	11	24	-37	-43	-14	-20	-15	-05
2.TR3	--	66	74	46	-31	-35	-08	-01	-25	-43	32	44	-26	-40	-29	-37	08	25	-36	-43	-11	-19	-16	-04
3.TW2		--	88	50	-35	-41	-11	05	-31	-41	.36	37	-35	-47	-31	-34	11	23	-43	-49	-04	-.07	-10	02
4.TW3			--	68	-35	-41	-10	04	-31	-43	31	40	-31	-47	-28	-37	07	22	-40	-48	-05	-10	-17	02
5.TRR^				--	-39	-51	-13	19	-23	-40	00	29	-20	-53	-22	-34	-06	08	-26	-51	08	-10	-13	-04
6.NA2					--	79	06	-05	56	56	-13	-05	55	58	68	63	13	12	53	58	23	20	25	11
7.NA3						--	03	-05	45	66	-09	-11	46	69	52	74	11	03	53	67	10	16	22	06
8.INA							--	42	12	07	-15	-20	03	02	07	06	-08	-17	04	02	15	13	-01	05
9.IPA								--	02	-07	-11	-06	-02	-04	-05	-09	-15	-09	-03	-12	10	02	-02	05
10.Sad2									--	62	-33	-11	65	51	61	45	-11	-01	59	47	28	10	12	21
11.Sad3										--	-20	-29	52	72	52	73	-01	-17	57	69	24	15	19	18
12.Clm2											--	58	-24	-21	-26	-14	47	40	-26	-15	-11	-18	-08	-14
13.Clm3												--	-07	-22	-12	-19	36	72	-18	-18	-03	-20	-13	-06
14.Ang2													--	69	60	46	-05	06	74	59	22	07	18	17
15.Ang3														--	50	66	04	-03	67	76	13	09	23	14
16.Fea2															--	70	00	06	59	51	23	24	27	13
17.Fea3																--	08	-01	51	67	15	20	26	12
18.Joy2																	--	53	-03	06	-12	-15	-08	-09
19.Joy3																		--	-04	-01	-07	-10	-08	00
20.Cnt2																			--	71	18	11	24	13
21.Cnt3																				--	08	03	17	06
22.NR																					--	53	27	30
23.EI																						--	44	30
24.Prev																							--	21
25.PBC																								--

Note.  $N = 253$ , ^ TRR  $N = 122$ . TR = Trust, TW = Trustworthiness, TRR = Trust Repair Response, NA = Negative Affect, PA = Positive Affect, INA = Implicit Negative Affect, IPA = Implicit Positive Affect, Sad = Sadness, Clm = Calmness, Ang = Anger, Fea = Fear, Cnt = Contempt, NR = Negative Reactivity, EI = Emotional Intensity, Prev = Prevention, PBC = Private Body Consciousness.

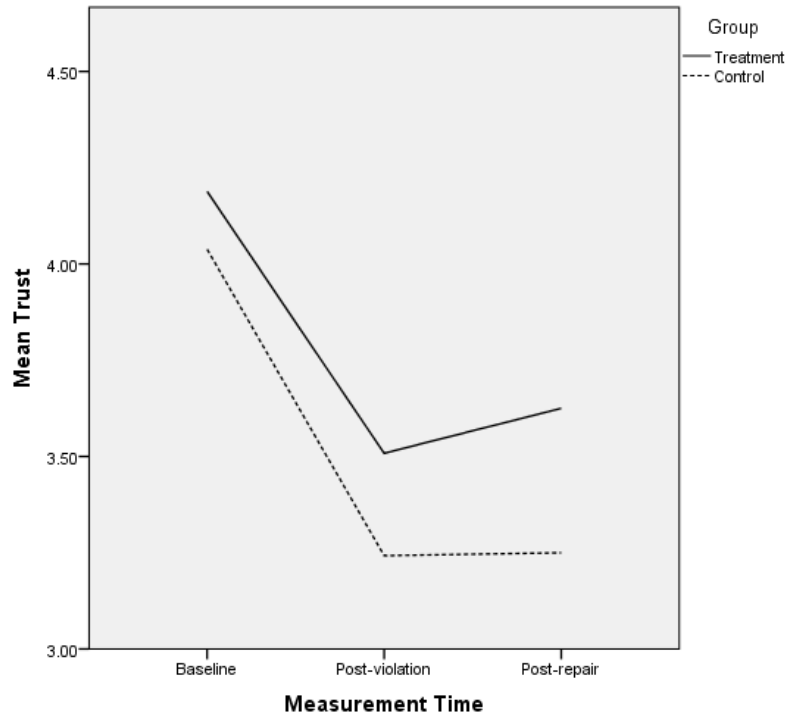
$r > |12|$  has  $p < .05$ ;  $r > |16|$  has  $p < .01$ ;  $r > |20|$  has  $p < .001$ . ^ TRR,  $r > |17|$  has  $p < .05$ ;  $r > |22|$  has  $p < .01$ ;  $r > |29|$  has  $p < .001$  (two-tailed)

PBC also had strong positive correlations with emotional intensity ( $r = .30, p < .001$ ), negative reactivity ( $r = .30, p < .001$ ) and prevention-orientation ( $r = .21, p < .001$ ).

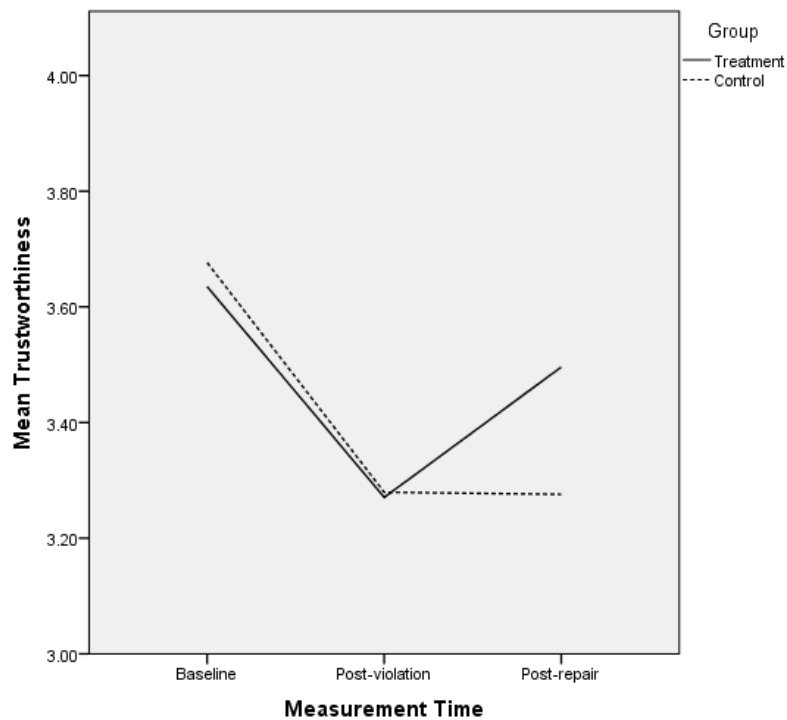
#### **Manipulation checks and trust repair.**

ANOVA results show that there was a significant trust breach between Time 1 and Time 2. The main effect of time was statistically significant  $F(1, 251) = 152.19, p < .001$ , yet, as predicted, at Time 1 there was no statistically significant between-condition difference,  $F(1, 251) = .93, p = .34$ . The treatment group's mean level of trust fell by .68, from  $M = 4.19$  at Time 1 to  $M = 3.51$  at Time 2, as shown in **Figure 4**. In the control group, mean trust decreased by .80, from  $M = 4.04$  to  $M = 3.24$ .

There was also a statistically significant between-subject recovery in trust from Time 2 to Time 3. Participants in the treatment group recovered trust to a greater extent than those in the control group, suggesting a trust repair effect. This was evidenced by a significant time-by-condition interaction,  $F(1, 251) = 5.55, p = .019$ . As shown in **Figure 4**, mean level of trust in the treatment group increased by 0.12, from  $M = 3.51$  to  $M = 3.63$ . In the control group, trust was miniscule, with the level of trust changing from  $M = 3.24$  at Time 2 to  $M = 3.25$  at Time 3, a mean increase of .008.



**Figure 4. Study 2 Trust Violation and Repair: Estimated Marginal Means of Trust from Baseline (Time 1) to Post-repair (Time 3).**



**Figure 5. Study 2 Trustworthiness Violation and Repair: Estimated Marginal Means of Trustworthiness from Baseline (Time 1) to Post-repair (Time 3).**

**Figure 5** shows that there was a significant decline in perceptions of trustworthiness in both the treatment and control groups. The main effect of time was significant  $F(1, 251) = 79.39, p < .001$ , but, as with willingness to trust, there was no statistically significant between-condition difference from Time 1 to Time 2,  $F(1, 251) = .14, p = .71$ . Regarding trust repair effects, there was a significant time-by-condition difference in perceptions of trustworthiness from Time 2 to Time 3,  $F(1, 251) = 34.83, p < .001$ . The Time 2 to Time 3 mean level of trustworthiness in the treatment group increased by 0.13, from  $M = 3.27$  to  $M = 3.50$ . In the control group, the mean level of trustworthiness fell slightly from  $M = 3.28$  at Time 2 to  $M = 3.27$  at Time 3.

Results show that there was a significant trust breach in the full sample and subsequent trust repair effect in which the treatment group improved in both mean trust and mean trustworthiness whilst the control group did not. The following section concerns the testing of the hypotheses outlined earlier.

### Hypothesis Testing

Hypotheses 1 and 2 of the current study aimed to replicate results obtained in Study 1. Specifically, Study 1 indicated that NA change was significant in predicting trust change even when trustworthiness change was included in analysis, so Hypothesis 1 related to whether or not this result would be replicated in a larger sample.

As displayed in **Table 7.5**, the regression of  $\Delta$  trust on  $\Delta$  NA yielded the following results in the treatment group:  $F(1, 120) = 7.48, p = .007, R^2 = .06$ . As expected, the relationship was negative,  $b = -.25, t = -2.73$ . The addition of  $\Delta$  trustworthiness resulted in a more significant effect,  $\Delta F(2, 119) = 9.44, \Delta p = .003, \Delta R^2 = .07$ , however,  $\Delta$  NA remained significant when  $\Delta$  trustworthiness was controlled,  $b = -.25, t = -2.81, p = .006$ . The significant effects of  $\Delta$  NA as a predictor of  $\Delta$  trust were not present in the control group,  $F(1, 129) = 0.15, p = .70, R^2 = .01$ . These results replicate those found in Study 1 and give further credence to the importance of affect in the trust repair process. They also provide some evidence to suggest that solely considering cognition in relation to trust repair does not give a complete picture of the processes at work.

**Table 7.5 - Regressions of Trust Change (Time 3 – Time 2) on Explicit Negative Affect Change (Time 3 – Time 2) and Trustworthiness Change (Time 3 – Time 2)**

IV	Treatment				Control			
	Model 1		Model 2		Model 1		Model 2	
	B	t	B	t	B	t	B	t
$\Delta$ NA	-.25	-2.73**	-.25	-2.81**	-.02	-.39	-.03	-.42
$\Delta$ TW	--	--	.30	3.07**	--	--	.40	3.85**
R <sup>2</sup>	.06**		.13**		<-.01		.10**	
$\Delta$ R <sup>2</sup>	--		.07**		--		.10**	

Note: Treatment  $n = 122$ , Control  $n = 131$ ,  $\Delta$  = a difference score created by subtracting T2 variables from T3 variables, thus positive values of variables indicate an increase from T2 to T3, IV = Independent Variable, NA = Negative Affect. TW = Trustworthiness.

\*\*  $p < .01$ .

Hypothesis 2 aimed to replicate the results found in Study 1 relating to prevention-orientation. Namely, it was expected that prevention-orientation would moderate the relationship between NA variables and  $\Delta$  trustworthiness. Furthermore, it was also expected that prevention orientation would moderate the relationship between NA variables and  $\Delta$  trust. However, the current study was not able to replicate the results obtained in Study 1, as prevention-orientation did not moderate the relationships between NA Time 2 or NA Time 3 and  $\Delta$  trustworthiness. Neither did it moderate the relationships between NA Time 2 or NA Time 3 and  $\Delta$  trust. Results are displayed in **Table 7.6**.

Results pertaining to Hypothesis 2a, concerning  $\Delta$  trustworthiness, were as follows. The prevention x NA 2 interaction was not significant,  $b = -.04$ ,  $t = -.96$ ,  $p = .34$ . Prevention x NA 3 results were also nonsignificant,  $b = <-.01$ ,  $t = -.04$ ,  $p = .97$ . As a whole, the model was not significant,  $F(5, 116) = 1.01$ ,  $p = .42$ ,  $R^2 = .04$ .

Similar results occurred in relation to Hypothesis 2b, which considered  $\Delta$  trust as the dependent variable. The interaction term of prevention x NA T2 produced the following results,  $b = -.07$ ,  $t = -1.55$ ,  $p = .12$ . Prevention x NA T3 was also nonsignificant,  $b = .03$ ,  $t = .43$ ,  $p = .67$ . Total model results were nonsignificant,  $F(5, 116) = 2.20$ ,  $p = .059$ ,  $R^2 = .09$ . Although significance was just under the .05 level in this model, the previous model without the interaction terms proved a better fit,  $F(3, 118) = 2.67$ ,  $p = .051$ ,  $R^2 = .06$ . In sum, hypotheses 2a and 2b were not supported.

**Table 7.6 – Study 2 Regressions of Dependent Variables' Change (Time 3 - Time 2) on Prevention Orientation and Negative Affect**

IV	Model 1		Treatment				Model 1		Control		Model 3	
	B	t	B	t	B	t	B	t	B	t	B	t
DV: $\Delta$ TW												
Prevention	-.04	-1.69	-.04	-1.82	-.05	-2.04*	-.02	-.93	-.01	-.73	-.03	1.71
NA 2	--	--	.02	.23	.03	.32	--	--	<-.01	-.08	.02	.37
NA 3	--	--	.03	.27	.03	.24	--	--	-.02	-.39	.01	.18
PrevxNA2	--	--	--	--	-.04	-.96	--	--	--	--	<.01	.05
PrevxNA3	--	--	--	--	<-.01	-.04	--	--	--	--	-.10	-2.25*
R <sup>2</sup>		.02		.03		.04		.01		.03		.12**
$\Delta$ R <sup>2</sup>		--		<.01		.01		--		.02		.09**
DV: $\Delta$ Trust												
Prevention	<-.01	-.12	-.02	-.55	.02	.37	-.02	-1.02	-.02	-.68	-.02	.14
NA 2	--	--	.25	2.72**	.27	2.89**	--	--	.01	.14	<.01	.14
NA 3	--	--	-.21	-1.77	-.22	-1.85	--	--	-.08	-1.13	-.08	-1.13
PrevxNA2	--	--	--	--	-.07	1.55	--	--	--	--	.01	.39
PrevxNA3	--	--	--	--	-.03	-.43	--	--	--	--	-.02	-.36
R <sup>2</sup>		.00		.06		.08		.01		.02		.02
$\Delta$ R <sup>2</sup>		--		.06*		.02		--		<.01		.00

*Note.* Treatment  $n = 122$ , Control  $n = 131$ . IV = Independent Variable, DV = Dependent Variable.  $\Delta$  TW = a difference score created by subtracting T2 Trustworthiness from T3 Trustworthiness, thus positive values of this variable indicate an increase in Trustworthiness from T2 to T3,  $\Delta$  Trust = a difference score created by subtracting T2 Trust from T3 Trust, thus positive values of this variable indicate an increase in Trust from T2 to T3. NA = Negative Affect. PrevxNA = the interaction term of Prevention Orientation and Negative Affect. Regression coefficients are unstandardized.

\*  $p < .05$ , \*\*  $p < .01$ .

Furthermore, prevention-orientation did not appear to play a moderating role when differential emotions were tested as predictors of either of  $\Delta$  trust and  $\Delta$  trustworthiness, either. Additionally, unlike in Study 1, prevention-orientation did not have a statistically significant direct effect on neither  $\Delta$  trust nor  $\Delta$  trustworthiness. The outcome of the regression of  $\Delta$  trust on prevention-orientation was as follows,  $F(1, 120) = .02, p = .902, R^2 = <.01$ . For  $\Delta$  trustworthiness, results were also nonsignificant,  $F(1, 120) = 2.85, p = .094, R^2 = .02$ . Thus, it appears that prevention focus was not influential in predicting either  $\Delta$  trust or  $\Delta$  trustworthiness, either directly or as a moderator of their relationships with mood or specific emotion variables.

Support for Hypothesis 3a requires that specific emotions render the effects of  $\Delta$  NA nonsignificant, and 3b requires that the added emotion remains statistically

significant when  $\Delta$  trustworthiness is included. Both of these requirements were satisfied for  $\Delta$  fear and  $\Delta$  joy. However, no other emotions satisfied both requirements. Regarding Hypothesis 3a, as a lone predictor of  $\Delta$  trust,  $\Delta$  fear proved to be statistically significant,  $F(1, 120) = 11.82, p < .001, R^2 = .09$ . It remained so when  $\Delta$  trustworthiness was included in the regression, and as expected had a negative relationship with  $\Delta$  trust,  $b = -.17, t = -3.44$ . The results of the entire model were as follows,  $\Delta F(2, 119) = 8.45, \Delta p < .001, \Delta R^2 = .09$ , accounting for over 18% of the variance in trust change from Time 2 to Time 3. Moving on to Hypothesis 3b, the statistical significance of  $\Delta$  NA was completely eliminated by the addition of  $\Delta$  fear to the regression.  $\Delta$  NA as lone predictor was significant, and had  $b$ -value of  $-.25$ , but when  $\Delta$  fear was included in the regression, the  $p$ -value of  $\Delta$  NA dropped to  $.86$  and its  $b$  decreased by  $.12$  to  $-.13$ .  $\Delta$  Fear was statistically significant in predicting  $\Delta$  trust alongside  $\Delta$  NA, with a  $p$ -value of  $.003$  and a  $b$  of  $-.13$ , and remained so when  $\Delta$  trustworthiness was included as a control variable,  $p = .014, b = -.12$ .

$\Delta$  Joy was significant in predicting  $\Delta$  trust as a lone variable,  $F(1, 120) = 7.84, p = .006, R^2 = .06$ , and also remained significant when  $\Delta$  trustworthiness was included in the regression. The direction of the relationship between  $\Delta$  joy and  $\Delta$  trust in this regression was positive,  $b = .23, t = 2.80$ , and the total model accounted for around 12% of the total variance in  $\Delta$  trust,  $\Delta F(2, 119) = 7.78, \Delta p = .006, \Delta R^2 = .06$ . The addition of  $\Delta$  NA to the equation for the purpose of testing Hypothesis 3b altered results somewhat; the effect of  $\Delta$  joy remained significant, but the influence of  $\Delta$  NA did not decrease substantively. When  $\Delta$  joy was added to the regression of  $\Delta$  trust on  $\Delta$  NA in the treatment group, the  $\Delta$  NA regression coefficient remained at a similar level, falling from  $-.25$  to  $-.23$ , and  $\Delta$  joy  $b$  was  $.23$ . Here we see that the two independent variables have the same weighting, but with different signs. This makes conceptual sense, as prior research indicates that the existence of positive emotion is influential in repairing cooperation (Bottom et al., 2002) and trust (Chen et al., 2013). The inclusion of  $\Delta$  trustworthiness did not alter the NA regression coefficient, but it did reduce the influence of  $\Delta$  joy slightly, from  $.23$  to  $.19$ .

Results for other emotions were less consistent.  $\Delta$  Anger also significantly predicted  $\Delta$  trust as a sole independent variable,  $F(1, 120) = 5.63, p = .019, R^2 = .05$ , however, when controlling for trustworthiness  $\Delta$ , its significance fell below the  $.05$  threshold and its unstandardized beta coefficient fell from  $-.11$  to  $-.05$ . The whole

model results were as follows,  $\Delta F(2, 119) = 7.09$ ,  $\Delta p = .009$ ,  $\Delta R^2 = .05$ . The regression of  $\Delta$  trust on  $\Delta$  NA and  $\Delta$  anger resulted in the NA variable remaining significant ( $b = -.20$ ) and the anger variable not adding anything substantive to the regression ( $b = -.08$ ). Including  $\Delta$  trustworthiness in the regression saw the regression coefficient of  $\Delta$  NA increase slightly, to  $-.22$ , and the  $\Delta$  anger coefficient fall further, to  $-.06$ , thus not supporting Hypothesis 3b. The other emotions of interest,  $\Delta$  sadness,  $\Delta$  calmness and  $\Delta$  contempt did not have any substantive influence in predicting  $\Delta$  trust, either without  $\Delta$  NA (Hypothesis 3a) as summarised in **Table 7.7** or with  $\Delta$  NA (Hypothesis 3b), as summarised in **Table 7.8**.

In summary, results suggest that the fear and joy difference scores were clear predictors of  $\Delta$  trust, even when controlling for  $\Delta$  trustworthiness, but effects for other emotions were generally nonsignificant. Put differently, *it is evident that the inclusion of  $\Delta$  trustworthiness did not significantly reduce the predictive power of the aforementioned emotions on  $\Delta$  trust*. This indicates some support for Hypothesis 3a. In testing Hypothesis 3b, it was evident that  $\Delta$  NA appeared to be robust as a predictor of  $\Delta$  trust when considered alongside the majority of differential emotions, controlling for  $\Delta$  trustworthiness, providing some support for previous research into the hierarchical categorisation of emotions in which general dimensions (i.e. NA and PA) were superordinate to specific emotions (Watson & Tellegen, 1985; Watson et al., 1999). Only  $\Delta$  fear substantively reduced the effects of  $\Delta$  NA. **Table 7.9** summarises these results.



**Table 7.7 - Incremental Variance in Predicting Trust Change (Time 3 – Time 2) from Change in Emotions and Trustworthiness (Time 3 – Time 2)**

IV	Treatment				Control			
	Model 1		Model 2		Model 1		Model 2	
	B	t	B	t	B	t	B	t
Δ Fear	-.17	-3.44**	-.16	-3.35**	-.06	-1.60	-.04	-1.18
Δ TW	--	--	.29	2.91**	--	--	.39	3.68**
R <sup>2</sup>	.09**		.15**		.02		.11**	
ΔR <sup>2</sup>	--		.06**		--		.09**	
Δ Joy	.23	2.80**	.21	2.57*	.04	.63	.03	.64
Δ TW	--	--	.28	2.79**	--	--	.40	3.85**
R <sup>2</sup>	.06**		.12**		<.01		.10**	
ΔR <sup>2</sup>	--		.06**		--		.10**	
Δ Anger	-.11	-2.37*	-.05	-1.94	-.05	-1.41	-.05	-1.29
Δ TW	--	--	.27	2.66**	--	--	.39	3.81**
R <sup>2</sup>	.04*		.09**		.02		.12**	
ΔR <sup>2</sup>	--		.05**		--		.10**	
Δ Sad.	-.05	-.86	-.04	-.68	-.05	-1.58	-.06	-1.77
Δ TW	--	--	.30	2.94**	--	--	.41	3.95**
R <sup>2</sup>	.01		.08**		.02		.13**	
ΔR <sup>2</sup>	--		.07**		--		.10**	
Δ Calm	.01	2.10*	.08	1.64	<.01	-.01	-.01	-.14
Δ TW	--	--	.28	2.68**	--	--	.40	3.85**
R <sup>2</sup>	.04*		.10**		<.01		.10**	
ΔR <sup>2</sup>	--		.06**		--		.10**	
Δ Cont.	-.06	-1.11	-.04	-.77	<.01	.26	<.01	.30
Δ TW	--	--	.30	2.88**	--	--	.40	3.85**
R <sup>2</sup>	.01		.08**		<.01		.10**	
ΔR <sup>2</sup>	--		.07**		--		.10**	

*Note.* Treatment  $n = 122$ , Control  $n = 131$ . IV = Independent Variable, NA = Negative Affect, TW = Trustworthiness, Cont. = Contempt.  $\Delta$  = a difference score created by subtracting T2 variables from T3 variables, thus positive values of variables indicate an increase from T2 to T3.

\*  $p < .05$ , \*\*  $p < .01$ .

**Table 7.8 - Incremental Variance in Predicting Trust Change (Time 3 – Time 2) from Change in Negative Affect, Emotions and Trustworthiness (Time 3 – Time 2)**

IV	Model 1			Model 2				Model 3			
	B	t	R <sup>2</sup>	B	t	R <sup>2</sup>	ΔR <sup>2</sup>	B	t	R <sup>2</sup>	ΔR <sup>2</sup>
<i>Treatment</i>											
Δ NA	-.25	-2.73**	.06**	-.12	-1.14	.10**	.04*	-.13	-1.27	.16**	.06**
Δ Fear	--	--	--	-.13	-2.32*	--	--	-.12	-2.18*	--	--
Δ TW	--	--	--	--	--	--	--	.29	2.96**	--	--
Δ NA	-.25	-2.73**	.06**	-.23	-2.61**	.11**	.05**	-.23	-2.70**	.16**	.05**
Δ Joy	--	--	--	.22	2.68**	--	--	.19	2.45*	--	--
Δ TW	--	--	--	--	--	--	--	.28	2.86**	--	--
Δ NA	-.25	-2.73**	.06**	-.20	-2.14*	.08**	.02	-.22	-2.33*	.14**	.06**
Δ Anger	--	--	--	-.08	-1.67	--	--	-.06	1.20	--	--
Δ TW	--	--	--	--	--	--	--	.28	2.82**	--	--
Δ NA	-.25	-2.73**	.06**	-.25	-2.58**	.06**	<.01	-.26	-2.73**	.13**	.07**
Δ Sadness	--	--	--	<.01	.08	--	--	-.02	.31	--	--
Δ TW	--	--	--	--	--	--	--	.31	3.07**	--	--
Δ NA	-.25	-2.73**	.06**	-.22	-2.31*	.08**	.02	-.23	-2.48*	.14**	.06**
Δ Calm.	--	--	--	.07	1.53	--	--	.05	1.03	--	--
Δ TW	--	--	--	--	--	--	--	.29	2.83**	--	--
Δ NA	-.25	-2.73**	.06**	-.24	-2.56**	.06**	<.01	-.24	-2.70**	.14**	.07**
Δ Cont.	--	--	--	-.04	-.62	--	--	-.01	-.26	--	--
Δ TW	--	--	--	--	--	--	--	.30	3.00**	--	--
<i>Control</i>											
Δ NA	-.02	-.39	<.01	.04	.57	.02	.02	.02	.27	.11**	.09**
Δ Fear	--	--	--	-.08	-1.65	--	--	-.05	-1.13	--	--
Δ TW	--	--	--	--	--	--	--	.38	3.63**	--	--
Δ NA	-.02	-.39	<.01	-.02	-.29	.01	<.01	-.02	-.32	.11**	.10**
Δ Joy	--	--	--	.03	.57	--	--	.03	.58	--	--
Δ TW	--	--	--	--	--	--	--	.40	3.84**	--	--
Δ NA	-.02	-.39	<.01	.02	.26	.02	.02	.01	.17	.12**	.10**
Δ Anger	--	--	--	-.06	-1.37	--	--	-.05	-1.23	--	--
Δ TW	--	--	--	--	--	--	--	.39	3.79**	--	--
Δ NA	-.02	-.39	<.01	.01	.09	.02	.02	.01	.12	.12**	.11**
Δ Sadness	--	--	--	-.05	-1.52	--	--	-.06	-1.72	--	--
Δ TW	--	--	--	--	--	--	--	.41	3.93**	--	--
Δ NA	-.02	-.39	<.01	-.01	-.22	.02	.02	-.02	-.30	.11**	.09**
Δ Calm.	--	--	--	.07	1.58	--	--	.05	1.09	--	--
Δ TW	--	--	--	--	--	--	--	.39	3.64**	--	--
Δ NA	-.02	-.39	<.01	-.03	-.40	.01	<.01	-.03	-.42	.11**	.10**
Δ Cont.	--	--	--	.01	.10	--	--	<.01	.07	--	--
Δ TW	--	--	--	--	--	--	--	.40	3.84**	--	--

*Note.* Treatment  $n = 122$ , Control  $n = 131$ , IV = Independent Variable, NA = Negative Affect, TW = Trustworthiness, Calm. = Calmness, Cont. = Contempt.  $\Delta$  = a difference score created by subtracting T2 variables from T3 variables, thus positive values of variables indicate an increase from T2 to T3.

\*  $p < .05$ , \*\*  $p < .01$

**Table 7.9 - Regression Coefficients for Change in NA in Predicting Change in Trust (Time 3 – Time 2), Controlling for Change in Trustworthiness (Time 3 – Time 2) in Treatment Group**

<b>Emotion Variable</b>	<b>B-coefficients</b>
$\Delta$ NA by itself	-.25**
$\Delta$ NA including Fear	-.13
$\Delta$ NA including Joy	-.23**
$\Delta$ NA including Anger	-.22*
$\Delta$ NA including Sadness	-.26**
$\Delta$ NA including Calmness	-.23**
$\Delta$ NA including Contempt	-.24**

*Note.* Treatment  $n = 122$ . NA = Negative Affect.  $\Delta$  = a difference score created by subtracting T2 variables from T3 variables, thus positive values of variables indicate an increase from T2 to T3 Refer to **Table 7.8** for full regressions.

\*  $p < .05$ , \*\*  $p < .01$ .

Given the process view of trust favoured in this thesis, I posited that the differential emotions considered in this study would influence  $\Delta$  trustworthiness rather differently than they would  $\Delta$  trust. Perceiving an entity as trustworthy is a *belief*, yet actually trusting said entity requires *action*. As emotions influence action, it is expected that they would predict willingness to trust due to its action-orientation, yet not trustworthiness, as finding something trustworthy does not require action. So, as a final note regarding the relationship between NA and differential emotions in the trust repair process, evidence from post-hoc analyses suggest change in differential emotions influenced  $\Delta$  trustworthiness in a rather different manner than they did  $\Delta$  trust in the current study. Whilst  $\Delta$  NA,  $\Delta$  fear and  $\Delta$  joy appeared to be particularly influential in predicting  $\Delta$  trust, they did not predict  $\Delta$  trustworthiness. Indeed, the only emotion variable of interest that did predict  $\Delta$  trustworthiness was  $\Delta$  calmness. Perceptions of trustworthiness, that is, appraisals of someone's ability, benevolence and integrity, are cognitive in nature. I assert that willingness to trust has a substantial emotional component that is largely independent of cognition, and thus it should not be surprising that the constructs of perceptions of organizational trustworthiness and willingness to trust are influenced differently by emotion. See **Tables 7.8** and **7.10** for a comparison of the effects of  $\Delta$  emotion variables on  $\Delta$  trust and  $\Delta$  trustworthiness, respectively.

**Table 7.10 - Regressions of Trustworthiness Change (Time 3 - Time 2) on Emotion Change (Time 3 - Time 2)**

IV	Treatment			Control		
	B	t	R <sup>2</sup>	B	t	R <sup>2</sup>
Δ NA	-.01	-.07	<.01	<.01	.02	<.01
Δ Fear	-.03	-.71	<.01	-.05	-1.51	.02
Δ Joy	.08	1.15	.01	<.01	.05	<.01
Δ Anger	-.08	-1.90	.03	-.02	-.57	<.01
Δ Sadness	-.04	-.78	.01	.01	.32	<.01
Δ Calmness	.08	2.00*	.03*	.06	1.70	.02
Δ Contempt	-.07	-1.39	.02	.01	.13	<.01

Note. Treatment  $n = 122$ , Control  $n = 131$ , IV = Independent Variable NA = Negative Affect, TW = Trustworthiness.  $\Delta$  = a difference score created by subtracting T2 variables from T3 variables, thus positive values of variables indicate an increase from T2 to T3.

\*  $p < .05$ .

With regards to the hypotheses relating to the affect intensity individual difference measures and their predicted interaction effects with  $\Delta$  emotions and  $\Delta$  trust, none were supported. Hypothesis 4a was not supported, as *negative reactivity* did not moderate the relationship between  $\Delta$  trust from Time 2 to Time 3 and any of the state emotion or affect variables of interest. Hypothesis 4b, which suggested that *emotional intensity* would moderate the relationship between  $\Delta$  trust (Time 2 to Time 3) and the emotion and affect variables of interest, was not supported either. Finally, PBC did not relate to  $\Delta$  trust from Time 2 to Time 3, neither did it moderate the relationship between this change and any emotion variable, thus Hypothesis 5 was not supported.

Hypotheses 6a-6c related to perceptions of the CEO's trust repair effort. Specifically, it was expected that how participants in the treatment group perceived the National Express CEO's trust repair effort would directly influence their  $\Delta$  trust from Time 2 to Time 3 (Hypothesis 6a), that the trust repair perceptions would mediate the relationship between  $\Delta$  trust and  $\Delta$  NA (Hypothesis 6b), and, between  $\Delta$  trust and  $\Delta$  trustworthiness (Hypothesis 6c). The relationship between perceptions of the CEO's trust repair response and  $\Delta$  trust from Time 2 to Time 3 was not statistically significant,  $F(1, 120) = 2.55$ ,  $p = .113$ ,  $R^2 = .021$ . As such, mediation is not possible and none of the hypotheses were supported.

### Exploratory Analyses

The hypotheses of the current study focused on the difference between trust and emotions from Time 2 to Time 3, or post-violation to post-repair. Post-hoc analyses of Time 1 to Time 2 differences were also considered to ascertain whether the emotionality variables would predict baseline trust to trust post-violation change. For these analyses, the whole sample was considered, because from Time 1 to Time 2 all participants saw the same stimuli. Thus, there was no reason to consider the treatment and control groups separately, unlike during the hypothesis testing which concerned Time 2 to Time 3 change.

Negative reactivity and PBC were significant predictors of Time 1 to Time 2 trust change. The results for negative reactivity were as follows:  $F(1, 251) = 5.78, p = .017, R^2 = .02$ . The direction of this relationship was negative,  $b = -.15, .36, t = -2.41$ . The direction of PBC's relationship with Time 1 to Time 2 trust change was also negative  $b = -.18, t = -2.06$ , and significant,  $F(1, 251) = 4.23, p = .041, R^2 = .02$ . None of the other individual difference variables tested, namely prevention- and promotion-orientation, or emotional intensity proved to be significant predictors of Time 1 to Time 2 trust change, as demonstrated in **Table 7.11**.

**Table 7.11 - Regressions of Trust Change (Time 1 - Time 2) on Individual Difference Variables**

IV	B	T	R <sup>2</sup>
Prevention	-.06	-.1.40	<.01
Promotion	-.03	-.81	<.01
Negative Reactivity	-.15	-2.41*	.02*
Emotional Intensity	-.09	-1.44	<.01
Private Body Consciousness	-.18	-2.06*	.02*

Note:  $N = 253$ .

\*  $p < .05$ .

### Discussion

**Summary of results: Studies 1 and 2.** The same experimental stimuli in both Study 1 and Study 2 were used in order to determine whether certain key findings in Study 1 could be replicated in Study 2.

Firstly, it is important to note that there was a significant trust breach from the baseline Time 1 measure of trust to the Time 2 measure post-violation. Furthermore,

there were recoveries in both willingness to trust and perceptions of organizational trustworthiness in the treatment group that were statistically significant but not apparent in the control group, suggesting that there was a trust repair effect and that the study was appropriate for testing issues relating to trust violation and recovery. In Study 1, a significant repair effect was found for perceptions of organizational trustworthiness, but not for willingness to trust (although the mean level of trust did increase, as expected). In this respect, Study 2 replicates the trust breach and trustworthiness repair effects of Study 1, and also provides confidence in the trust repair effects that were not statistically significant in Study 1, given Study 2's larger sample.

The most significant of the Study 1 findings concerned the apparent role of  $\Delta$  NA change in predicting  $\Delta$  trust. Further exploratory analyses were undertaken to determine whether this would still be the case even when controlling for the effects of  $\Delta$  trustworthiness. It was, and these results were replicated in Study 2, suggesting that NA plays an important role in the trust repair process, an idea that has received scant empirical support in extant literature.

Another significant finding of Study 1 related to the influence of prevention orientation, both as a direct predictor of  $\Delta$  trustworthiness and as a moderator of the relationship between NA Time 2 and Time 3 and trustworthiness change. However, the directionality of the relationship between prevention orientation and trustworthiness was unexpected; there was a positive relationship between the two variables, when one would expect that it would be negative. In Study 2, the direction of the relationship was negative, yet there were no statistically significant results relating to the influence of prevention orientation as either a direct predictor of trustworthiness change or trust change or as a moderator of dependent variables relationships with NA change or any of the negative differential emotion change scores.

The other key findings of the second study, specifically, the influence of  $\Delta$  fear and  $\Delta$  joy as predictors of  $\Delta$  trust, were not tested in Study 1 as differential emotion measures were not included in the research design. A summary of key findings is displayed in **Table 7.12**

While  $\Delta$  NA predicted  $\Delta$  trust in the current study, it did not affect  $\Delta$  trustworthiness. This result differed from Study 1, where  $\Delta$  trustworthiness was also

predicted by  $\Delta$  NA. Given that perceptions of the organization's trustworthiness are cognitive, that  $\Delta$  NA may not necessarily influence such cognitive perceptions should not be surprising. On the other hand, the operationalization of trust as willingness to rely on the company to get the participant to a destination (a) safely, (b) on time, and willingness to use the company (c) as a coach-provider and (d) to take a long-distance journey may be more likely to tap into emotions. These aspects of trust invoke questions about the trustor's perceptions of the safety of taking a journey with the company and more general questions regarding its competence. Results showed that the greater the decrease in participants' NA from Time 2 to Time 3, the greater the increase in their trust from Time 2 to Time 3, so it may be that a decrease in negative emotion may prove to be the catalyst that drives the "leap of faith" from finding an entity trustworthy to being willing to trust it (Möllering, 2006).

**Table 7.12 - Summary of Key Findings**

<b>Finding</b>	<b>Study 1 Support? (Y/N)</b>	<b>Study 2 Support? (Y/N)</b>	<b>Replication (Y/N)</b>
Trust repair effect occurred.	Y	Y	Y
$\Delta$ NA predicts $\Delta$ trust.	Y	Y	Y
$\Delta$ NA predicts $\Delta$ trust, controlling for $\Delta$ trustworthiness.	Y (Exploratory)	Y	Y
$\Delta$ PA predicts $\Delta$ trust	Y	N	N
$\Delta$ PA predicts $\Delta$ trust, controlling for $\Delta$ trustworthiness.	N	N	N
Prevention orientation moderates the relationship between NA and perceptions of organizational trustworthiness.	Y	N	N
Prevention orientation has a direct relationship with $\Delta$ trust.	Y	N	N
$\Delta$ fear predicts $\Delta$ trust, controlling for $\Delta$ trustworthiness and $\Delta$ NA.	Not Tested	Y	N/A
$\Delta$ joy predicts $\Delta$ trust, controlling for $\Delta$ trustworthiness and $\Delta$ NA	Not Tested	Y	N/A

*Note.* Y = Yes, N = No, N/A = Not Applicable.

A particularly interesting finding of the current study was how changes in specific emotion variables and general affect influenced trust and trustworthiness change quite differently.  $\Delta$  Fear and  $\Delta$  joy, so influential in predicting  $\Delta$  trust, were not significant indicators of  $\Delta$  trustworthiness. Indeed, the most significant predictor of  $\Delta$  trustworthiness in terms of differential emotions was  $\Delta$  calmness, which was not related to  $\Delta$  trust. Why then, did a decrease in fear, a state of high arousal, not have the same effect on  $\Delta$  trustworthiness? Equally, why did an increase in calmness not have the same effect on trust as it did trustworthiness?

The answer to these questions may lie in the action-orientation of willingness to trust. My conceptualisation of the concept dictates that there is a motivational component to trust that is not necessarily apparent in perceptions of trustworthiness. This provides a possible explanation as to why  $\Delta$  fear may be particularly powerful in influencing  $\Delta$  trust, while  $\Delta$  calmness is not. Namely, fear is an evolutionary cue that alerts people to potential threats in the environment, both physical and psychological (Kish-Gephart et al., 2009). According to Frijda (1986) fear can be defined by its *withdrawal action* tendency (emphasis added). Here we can see a clear link between the action-orientation of trust and fear; *trust requires positive action in the midst of vulnerability, fear causes actors to withdraw from situations of physical and psychological vulnerability*. Also, given the intense nature of fear, it may consume cognitive resources as it is regulated, reducing its relation to cognitive measures. On the other hand, calmness does not possess the same action-orientation. It is considered a low state of arousal (Russell, 1980), so it may be that people who are calmer are able to consider the trustworthiness of National Express from a more rational perspective. This may be related to the misattribution of arousal (Schachter & Singer, 1962), which posits that arousal accentuates judgements depending on the positivity or negativity associated towards an object. That is, associations of objects may become more positive, and negative associations may become more negative when one is aroused depending on the prior association one has towards that object (Storback & Clore, 2008).

$\Delta$  Joy, the only specific emotion that constituted a positive emotional response in this study, was the next most influential of the differential emotions in predicting  $\Delta$  trust. Specifically, an increase in joy from Time 2 to Time 3 was positively related to an increase in trust. Fredrickson's perspective (2001) suggests positive emotions help



people “broaden and build”, leading to greater thought-action processes and the development of more personal resources. Joy, specifically, “broadens by creating the urge to play, push the limits, and be creative” (Fredrickson, 2001: 220). She also posits that positive emotions may have the ability to “undo” the effects of negative emotions. From these perspectives, when we think of trust in terms of willingness to be vulnerable and being based on positive expectations, we could infer that positive expectations are more likely to be developed in the presence of positive emotions, and vulnerability may be negated by them.  $\Delta$  PA was not a significant predictor of  $\Delta$  trust in this study, yet it was in Study 1. However, the influence of joy in the current study and PA in Study 1 may suggest that positive emotion is also important in willingness to trust, but not necessarily to perceptions of trustworthiness, in this case due to the lack of action-orientation attached to these perceptions.

Unlike in Study 1, prevention-orientation did not prove to predict  $\Delta$  trust or  $\Delta$  trustworthiness directly or as part of an interaction effect. The Study 1 results were somewhat unexpected, as there was a positive relationship between prevention-orientation and both  $\Delta$  trust and  $\Delta$  trustworthiness, yet one would expect these relationships to be negative. Moreover, significant interactions were not found for the other individual difference emotion variables, yet affect intensity appeared to play a role in predicting  $\Delta$  trust from baseline to post-violation (Time 1 to Time 2) when exploratory analyses were conducted. The negative relationship between negative reactivity and Time 1 – Time 2  $\Delta$  trust is not surprising; one would expect that the higher an individual’s level of reactivity to negative events, the more she would be affected by the crash and the greater the loss in trust would be from her base level.

### **Limitations**

Although Study 2 had a larger sample size than Study 1, given the use of the same stimuli and similar procedures, it still suffers from some of the same limitations as Study 1 did. Specifically, participants were not involved in a personally relevant situation and they were not affected by the trust failure in any way. As a consequence of this, it was not possible to measure the entire trust process. That is, the action stage of the process was not measured in either study.

### Chapter Summary and Implications for Study 3

Chapter 7 detailed the second study of my thesis. Study 2 aimed to build on the work conducted in Study 1 by attempting to replicate the findings of Study 1 in a larger sample. To this end, results showed that affect appeared to be important for trust violation and repair, strengthening the case for further study into its effects. Furthermore, Study 2 also included specific emotions and showed that  $\Delta$  fear and  $\Delta$  joy appeared to be particularly important in predicting  $\Delta$  trust, even when controlling for  $\Delta$  NA, which otherwise proved to be a robust predictor of the dependent variable. Finally, results showed that there was a difference in the predictive capacity of NA and specific emotion variables on trust and trustworthiness, respectively. Whilst emotions did not appear to be particularly predictive of  $\Delta$  trustworthiness, they *did* appear to influence willingness to trust. This has implications for how trust is measured. Furthermore, it suggests that considering emotions in trust violation and repair is important, and that purely cognitive models are not enough to sufficiently understand these processes.

Given the limitation of the current study, it was necessary to consider a design that allowed for measurement of the entire trust process; belief, decision, and action. In order to achieve this goal, a different, personally relevant scenario was required. This is detailed in the following chapter.

**Chapter 8: Study 3 – The Measurement of Trust as a Process**

**Extending Studies 1 and 2.** Study 3 was designed to address key limitations of Studies 1 and 2. First, the stimuli in these studies were not likely to be salient to participants as they were merely passive observers of a process that did not affect them personally. Second, my conceptualisation of trust as a process requires measurement of trustworthiness *beliefs*, the *decision* to trust, and *action(s)*.

Studies 1 and 2 were only able to capture the belief (perceptions of organizational trustworthiness) and decision (willingness to trust) components of this process; action was not measured. Hence, the two primary goals of Study 3 were to examine whether the findings pertaining to the relationship between affect and willingness to trust found in the previous studies also relate to (dis)trusting actions in a scenario that subjects would find salient. In order to do this, a field study was conducted in which Volkswagen (VW) vehicle owners were contacted and asked whether the recent Volkswagen Emissions Scandal (henceforth: the scandal) had influenced them in terms of their emotions towards the company, perceptions of Volkswagen's trustworthiness, willingness to trust Volkswagen and, crucially, whether or not they had engaged in several specific distrusting actions since the scandal occurred. In addition, there was an experimental component to the current study in which participants randomly assigned to either a treatment group, which witnessed a *trust repair manipulation*, or a control group, which witnessed no manipulation. It was this component of the study that aimed to replicate the trust repair effects found in Studies 1 and 2.

**Background: An Overview of the Scandal**

Before outlining Study 3's hypotheses and research design. I first provide an overview of the scandal that provides the context for this study. **Table 8.1** contains a timeline of the scandal and indicates when data for Study 2 were collected.

**Table 8.1 - Timeline of Volkswagen Scandal and Study 3 Data Collection**

<b>Date</b>	<b>Event</b>
May 2014	West Virginia University (WVU) publish study which indicated that two Volkswagen diesel vehicles emitted higher-than-claimed in-use emissions. WVU inform EPA and CARB of results.
Summer 2014	EPA contacts VW for an explanation for poor real-world NO <sub>x</sub> emissions.
December 2014	VW voluntarily recalls TDI vehicles and applies a software fix but EPA and CARB not satisfied.
May 2015	CARB conducts follow-up tests which indicate that VW's fix has not worked and NO <sub>x</sub> emissions are still significantly higher than the acceptable limit.
July 2015	CARB shares findings with VW and EPA. VW declares that some vehicles include a second calibration that is activated in laboratory conditions.
3 September 2015	Volkswagen admits that the secondary calibration is designed to bypass emissions testing.
18 September 2015	EPA makes public announcement, issuing VW with a notice of violation that states the automaker must recall affected 2009-2015 vehicles.
20 September 2015	VW issues public apology.
21 September 2015	First business day after the scandal breaks, VW shares down 20%.
23 September 2015	CEO Martin Winterkorn resigns.
25 September 2015	Mattias Muller appointed CEO. VW blames a small number of technicians for the crisis.
8 October 2015	VW USA CEO Michael Horn testifies before US Congress.
9 March 2016	Michael Horn resigns as VW USA CEO.
21 March – 21 April 2016	Study 3 data collection period.
21 April 2016	VW announces settlement package for affected US vehicles.

The Emissions Scandal was set into motion in May 2014, when the West Virginia University (WVU) Centre for Alternative Fuels, Engines and Emissions published the results of a study which found that two Volkswagen diesel cars produced higher-than-claimed in-use emissions (Thompson, Carder, Besch, Thiruvengadem & Kappana, 2014). WVU alerted the California Air Resources Board (CARB) and the

Environmental Protection Agency (EPA) to the results, but over the course of the summer Volkswagen asserted to the two agencies that the in-use emissions could have been caused by a number of technical difficulties and unexpected in-use conditions. However, in December 2014 the car manufacturer agreed to recall almost 500,000 vehicles in order to update the emission control software to make them compliant with emissions standards (Whorinsky & Warrick, 2015).

CARB conducted follow-up tests in May 2015 to determine whether the new control had worked. This appeared not to be the case, as nitrogen oxide (NO<sub>x</sub>) emissions were still significantly higher than the prescribed limit. In July 2015, CARB shared the results with the EPA and Volkswagen. At this point, Volkswagen disclosed that the vehicles have a second calibration that only runs while being emissions tested, invoked through the use of a few lines of computer code. On September 3<sup>rd</sup> 2015, the company admitted to CARB and the EPA that this software was designed to “bypass, defeat and render inoperative elements of the vehicle emissions control system” (Herbert, 2015). The EPA defines any device that reduces the effectiveness of emissions control under testing as a defeat device, and the use of such a device is subject to penalty (Herbert, 2015). Volkswagen’s admission to the use of a defeat device led the EPA to issue a notice of violation to Volkswagen on September 18<sup>th</sup> 2015 (Herbert, 2015). This notice stated that Volkswagen must initiate a process to fix the emission systems of roughly 482,000 diesel cars sold in the United States since 2008, and the manufacturer announced a recall on September 20<sup>th</sup> 2015. On this date, Martin Winterkorn the CEO of Volkswagen released a statement in which he apologised for breaking the trust of customers and the public, and stated that he “will do everything necessary in order to reverse the damage that has been caused” (Audi, 2015).

Three days later, on September 23<sup>rd</sup> 2015, Winterkorn resigned as CEO, stating:

As CEO I accept responsibility for the irregularities that have been found in diesel engines and have therefore requested the Supervisory Board to agree on terminating my function as CEO of the Volkswagen Group. I am doing this in the interests of the company even though I am not aware of any wrong doing on my part. (Volkswagen AG, 2015).

On September 25<sup>th</sup> 2015, Volkswagen promoted Matthias Müller from CEO of Porsche to head of the entire Volkswagen group. In a press conference to announce the appointment, the acting chairman of the company's work council, Bernd Osterloh, said that "unlawful behaviour of engineers and technicians involved in the engine development" was responsible for the scandal, before stating that "a small group has done damage to our company. We need a climate where mistakes are not hidden" (Ruddick & Farrell, 2015). As a response to the crisis, three employees from technical departments were suspended, pending an investigation.

In October, Volkswagen Group of America CEO, Michael Horn, gave testimony relating to the scandal to the House Committee on Energy and Commerce of the United States House of Representatives. In this hearing, Rep. Tim Murphy called the scandal "a fundamental violation of public trust" (House of Representatives, 2015). Horn provided details of some measures Volkswagen would take in response to the crisis, including a worldwide investigation, open communication, and compensation to dealers. He explained that he did not personally know about the existence of a defeat device, and that, to his knowledge, the installation of such software was not a corporate decision. On 9<sup>th</sup> March 2016, Horn resigned. A statement from the company said that Horn would be "leaving to pursue other opportunities, effective immediately" (Volkswagen, 2016). Hinrich Woebcken, formerly Head of the North American Region and Chairman of Volkswagen Group of America, replaced Horn as President and CEO of Volkswagen Group of American on an interim basis. It was shortly after this event, on March 21<sup>st</sup>, 2016, that data collection for Study 3 began.

Financially, the crisis has been catastrophic for VW, with the company losing over £18.5bn, or one-third, of the worth of its stock in the week beginning September 21<sup>st</sup> 2015, the first business day after the EPA issued a notice of violation and the automaker admitted malfeasance. It could face a fine of up to £11.6bn from the EPA, and class action lawsuits have been brought about by American and Australian law firms on behalf of customers who bought affected vehicles (Pandey, 2015). In the United States, Volkswagen has been granted preliminary consent for a \$10 billion settlement to buy back or provide fixes for around 475,000 affected vehicles, pending approval by a U.S judge in October 2016 (Sheperdson & Schectman, 2016). In light of this agreement, and Volkswagen's adamancy that compensation is not an option for customers affected in the United Kingdom (Transport Select Committee, 2016), the

UK Secretary of State for Transport has pressed Volkswagen regarding the discrepancy in their approach in different jurisdictions (Campbell, 2016). As Volkswagen came to a preliminary agreement to compensate affected North American customers on 22<sup>nd</sup> April 2016, it was decided that data collection should cease on this date. It allowed for a data collection period of one month, and data collected from participants with knowledge of this agreement might have led to very different responses than those collected before it was announced, potentially biasing results.

From a societal standpoint, the scandal hit the German economy “at its core”, with one economist claiming it could prove to be a greater economic threat than the Greek Debt Crisis (Nienaber, 2015). In Wolfsburg, the home of Volkswagen and a city that is heavily dependent on the company, feelings of disbelief, worry and anger were pervasive amongst employees and wider stakeholders (Milne, 2015). For dealers and owners in the United States, similar emotions were reported by numerous news outlets (Mouawad & Jensen, 2015; Wallace, 2015).

On the other hand, a survey of 1,000 Germans conducted in October 2015 by Prophet, a market research firm, suggested that Volkswagen’s reputation had not suffered unduly in its domestic market. 65% of respondents still thought of Volkswagen’s vehicles as being “outstanding”, and 63% thought that the scandal was a passing trifle and would soon disappear. 91% believed that Volkswagen is not the only car manufacturer cheating on emissions tests (Gibbs, 2015). However, another survey conducted at a similar time by UK consumer body ‘Which?’ produced rather different findings. Of 2,000 motorists directly affected by the scandal in the UK, nine out of 10 wanted compensation, 86% were worried about the environmental impact of their car, and more than half said that they were put off buying a Volkswagen vehicle in the future (Ruddick, 2015). These results show that the scandal was personally relevant and had behavioural implications for affected motorists.

### **Hypotheses**

The purpose of this study was to attempt to replicate results found in Studies 1 and 2, and to extend findings by including the final component of trust-as-process, i.e. the action, whilst examining the relationship between attribution, emotion and trust. Hypotheses 1 to 5 attempt to replicate prior findings, and Hypotheses 6 to 11 aim to extend them.

### **Trust Repair**

Studies 1 and 2 showed that there was a significant trust repair effect in the trust repair treatment group compared to the no repair control group for perceptions of organizational trustworthiness. The time-by-condition (Time 2 to Time 3) interaction effects for willingness to trust were less clear, in terms of significance, in the two prior studies. However, between-subject effects were significant, with trust being better maintained in the treatment group than the control group. The context of the current study is very different to that of Studies 1 and 2. Firstly, all participants in the current study own Volkswagen vehicles, and some were directly affected by emissions noncompliance, therefore it is likely to be more salient to them than the scenario used in Studies 1 and 2 was to participants. Secondly, the fallout from the scandal has not yet ended. There is much still to be resolved. The stimuli used for the manipulations in this study occurred in October 2015, five months before data collection began, and until the date that data collection concluded, not a great deal had changed with regards to substantive customer reparations or vehicle fixes, and it is likely that owners would know this. With this being the case, while participants may have perceived Volkswagen as more trustworthy in light of a trust repair effort, it is unlikely that their behavioural willingness to trust would change significantly. Hence, the following hypotheses were advanced:

Hypothesis 1: There will be a significant trust repair effect from Time 1 (baseline) to Time 2 (post-trust repair stimulus) for perceived organizational trustworthiness, as demonstrated by an increase in this variable from Time 1 to Time 2 in the treatment group.

Hypothesis 2: There will not be a significant trust repair effect from Time 1 (baseline) to Time 2 (post-trust repair stimulus) for willingness to trust.



### **Mood and Trust Repair**

Given the role of  $\Delta$  NA in predicting  $\Delta$  trust in studies 1 and 2, it is expected that a similar effect would occur in the current study.

Hypothesis 3:  $\Delta$  NA will be a significant indicator of  $\Delta$  trust in the treatment group when  $\Delta$  perceived organizational trustworthiness is controlled.

### **Specific Emotions and Trust Repair**

In Study 2,  $\Delta$  fear and  $\Delta$  joy were shown to be predictive of trust when both trustworthiness and NA were controlled. An aim of the current study was to examine whether these results would replicate.

Hypothesis 4: Change in the differential emotions of (a) fear and (b) joy will have an incremental effect over that of NA in predicting  $\Delta$  trust in the treatment group, even when  $\Delta$  perceptions of trustworthiness are controlled.

### **Mood, Emotion, Baseline Trust, and Trustworthiness**

Further to considering  $\Delta$  trust and  $\Delta$  trustworthiness (Time 1 to Time 2), it was deemed pertinent to examine the relationships between the emotion variables, trust, and trustworthiness at Time 1, given the salient history that participants would have had with Volkswagen. History was not as salient a factor in Studies 1 or 2; it was the trust repair effect that was of primary interest. In the current study, Time 1 data were likely to be more salient than the Time 2, post-repair information given the context of the scenario, as explained in the paragraph pertaining to Hypotheses 1 and 2. In line with the trust repair results of Studies 1 and 2, indicated by difference score effects, it was expected that NA would prove to be predictive of both perceptions of organizational trustworthiness and willingness to trust, and that they would remain so for willingness to trust when controlling for perceptions of organizational trustworthiness.

Hypothesis 5: NA will be a significant predictor of (a) organizational trustworthiness and (b) willingness to trust at Time 1.

Hypothesis 6: NA will be a significant indicator of trust at Time 1 when perceived organizational trustworthiness is controlled.

Furthermore, it was also expected that the specific emotions of fear and joy would remain significant indicators of willingness to trust, controlling for both perceptions of organizational trustworthiness and NA, given the results pertaining to difference scores obtained in Study 2.

Hypothesis 7: The differential emotions of (a) fear and (b) joy will have an incremental effect over and above that of NA in predicting trust at Time 1, when perceptions of trustworthiness are controlled.

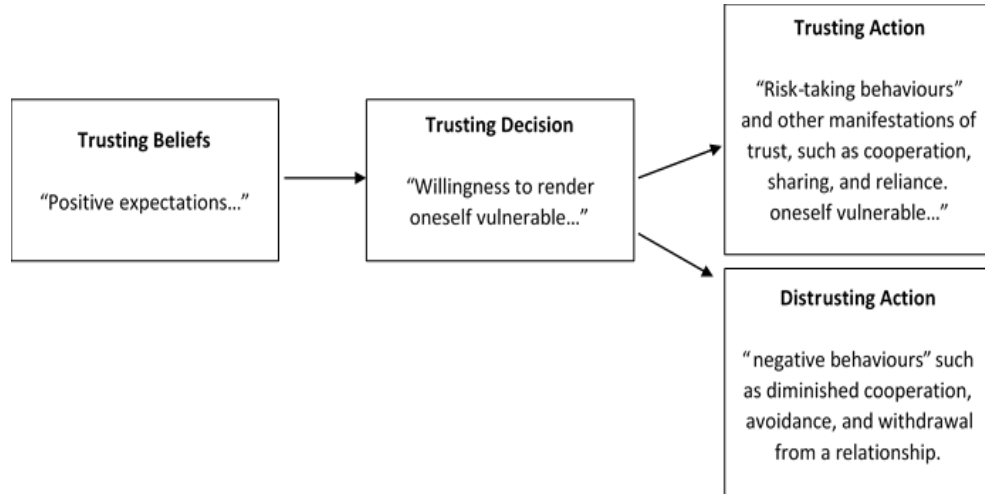
### **Trustworthiness, Willingness to Trust, and (Dis)trusting Actions**

Study 3 included a component of the trust process that was not included in Studies 1 or 2: the (dis)trusting action. The conceptualisation of trust taken in this thesis is that trust is a process that consists of belief, decision and action (Dietz & Den Hartog, 2006; Skinner, et al., 2013). Skinner et al. (2013: 218) state that the action stage of the trust process is vital; it is, as they state, “real trust” (emphasis in original); the manifestation of trust through action. Trusting acts include deliberately reduced monitoring, sharing valuable resources, increased collaboration and reliance (Dietz & Den Hartog, 2006; Gillespie, 2003; Nienaber et al., 2015), the adoption of a product or service (Kim et al., 2009; McKnight et al., 2002) and making a purchase (McKnight et al., 2002). There are few extant studies that include the measurement of trusting acts or behaviours in organizational settings. Kim and colleagues’ (2009) study of trust, perceived risk and trusting behaviour in internet banking is an exception. It found that trust in internet banking as a medium had a significant, positive direct effect on the trusting act of adopting internet banking, and an indirect effect through the perceived risk of internet banking. Furthermore, trust that the bank would not take advantage of customers’ information also significantly influenced trusting behaviour through perceived risk in internet banking. In McKnight et al.’s (2002) seminal study of trust in e-commerce, trust-related behaviour, or adoption of a service, was included in their conceptual model. However, the authors note that they did not directly test this

outcome in their study, but indicated that doing so would be a fruitful avenue of future research.

In the current study, I am particularly interested in acts or behaviour that could be constituted as different from the norm, or a change in a pre-planned action. Also, as the participants already have a relationship with Volkswagen, as they own VW brand vehicles, the context is very different to those in the studies described earlier in this section related to business-to-consumer relationships. In Kim and colleagues' (2009) article, the trusting behaviour measured was adoption of an online banking platform. Participants in the current study have already "adopted" by buying a Volkswagen vehicle, but a more pertinent question would be whether the scandal has caused them to act differently, particularly in a negative manner.

As outlined in Chapter 2, I do not consider distrust as being the polar opposite of trust on a continuum, as simply a lack of trust. Rather, it is a linked but separate construct that is activated in a different region of the brain to trust, in a quick, episodic and largely automatic manner (Bijlsma-Frankema et al., 2015; Dimoka, 2010). A graphical representation of the trust/distrust process is shown in **Figure 6**.



**Figure 6. A process model of trust.**

For the purpose of Study 3, a series of dichotomous behavioural items relating to distrusting acts were developed. Participants were asked whether they had engaged in any acts since the scandal related to the vehicle itself (making or changing plans to sell it, actively deciding to drive it less), complained to and about the organization, discouraged others from buying a product from the company, and altered previous

plans relating to going to a Volkswagen-themed or sponsored event. If they answered “yes” to any of these items, they were asked to what extent the scandal influenced their actions. Each item was summed to create a continuous *distrusting acts* variable. I considered developing a dichotomous dependent variable measure based on number of distrusting acts committed, coded as 1 = had engaged in one or more distrusting acts, and 0 = had not engaged in any distrusting acts. However, logistic regression results can be difficult to interpret, and my sample may not have passed the events-per-variable rule of thumb, which dictates that logistic models should be used with a minimum of 10 outcome events per predictor variable (Peduzzi, Conacto, Kempfer, Holford, & Feinstein, 1996). With these issues in mind, I took the decision to sum the items into a continuous measure in order to develop a psychometric scale score, and to attempt to produce a clearer, more parsimonious interpretation of results in keeping with the analyses conducted in Studies 1 and 2. In the context of this study, it was expected that:

Hypothesis 8: (a) Perceptions of organizational trustworthiness and (b) willingness to trust will have significant, negative relationships with distrusting acts.

Hypothesis 9: Willingness to trust will have a greater substantive effect in predicting distrusting acts than perceptions of organizational trustworthiness

Hypothesis 10: NA will have a significant, positive effect in predicting distrusting acts, controlling for willingness to trust.

Hypothesis 11: Specific emotions will predict distrusting acts, controlling for willingness to trust. Namely, (a) fear, will have a significant, positive effect, and (b) joy will have a significant, negative effect.

**Attribution and the trust process.** Attribution theory was covered in detail in Chapter 3. Although many studies consider trust and trust repair from an attributional basis (Dirks et al., 2009), there have been few empirical studies that directly test attribution in the process of trust repair. Chen et al (2013) built on Tomlinson and Mayer’s (2009) conceptual model of attribution and emotion in trust repair and found

that none of the attributional components in their study (controllability, locus of causality, or stability) were significant in predicting post-encounter trust after a poor e-service encounter. However, it was not noted what kind of failures occurred in the Chen et al. (2013) paper. Specifically, whether they were ability-, benevolence-, or integrity-based failures, or whether different failure types occurred for different customers.

It may be that attribution type weighs more heavily in some failure types than others. For instance, Kim et al. (2006) note that an apology coupled with external attributions was more successful in repairing trust after an integrity-based failure, whereas an apology coupled with internal attribution was deemed to signal greater trustworthiness after an ability-based failure. As the failure type of the current study is one of integrity, one may expect that attribution would be a moderator in the trust process. Specifically, given the prevalence of NA, fear and joy as influential emotion variables, it was expected that attribution would moderate the relationships between those variables and willingness to trust.

Hypothesis 12: Attribution will moderate the relationships between (a) NA and willingness to trust, (b) fear and willingness to trust, and (c) joy and willingness to trust.

### Method

**Research design.** The purpose of Study 3 was two-fold. Firstly, given the conceptualisation of trust used in this thesis, namely that it is a process that consists of belief, decision and action, it was important to consider the action component of the process as this had not previously been investigated in Studies 1 or 2. Furthermore, there was a second component to the study which mirrored the design of Studies 1 and 2. Namely, an experiment was conducted in which participants were randomly assigned to either a treatment or control group, with the treatment group seeing a *trust repair manipulation* and the control group seeing *no repair*. In this respect, the current study aimed to replicate results found in Studies 1 and 2. However, as participants in this study were owners of Volkswagen vehicles, it is likely that they would find the context more salient than participants in the thesis' previous studies.

### Participants and Procedure

138 Volkswagen vehicle owners completed Study 3. They were solicited via (a) personal invitation ( $n = 21$ ), (b) Volkswagen communities, such as message boards and owners' clubs ( $n = 20$ ), and (c) Prolific Academic ( $n = 97$ ). After consulting box plots and plotting residuals against leverage plots for regressions of trust on each specific emotion variable, three participants were identified as outliers and excluded from further analyses, leaving an  $N$  of 135. As stated previously, data collection began on 21<sup>st</sup> March 2016 and ended on 21<sup>st</sup> April 2016.

Individual differences were measured, followed by measures directly related to Volkswagen. Whether a participant's vehicle was affected by the scandal, the extent to which they felt informed about the scandal, and the extent to which they cared about the scandal were measured. These items all related to the issue of *salience*. Participants were then asked how important seven of purchase decision factors were in choosing to buy the Volkswagen vehicle: reliability, price, running costs, environmental considerations, design, engineering, and practicality. Dichotomous yes/no questions related to whether participants had performed any of six distrusting acts, accompanied with scales for each relating to how influential the scandal had been in these decisions, with response options ranging from 1 – not at all influential, to 5 – extremely influential, or 6 – not applicable (had they not engaged in that particular distrusting act). To end this section, respondents were asked if they were part of a formal or informal Volkswagen community, and whether or not Volkswagen could control the scandal and had power over it, these items related to a measure of attribution. At this point, Study 3 began to mirror Studies 1 and 2. Specific emotions, perceptions of organizational trustworthiness and willingness to trust were measured at two time points before the trust repair manipulation (Time 1: baseline) and again after it (Time 2: post-repair). After the relevant measures were collected for a second time, demographic information pertaining to gender, age, education level, country of birth and residence was collected before participants were debriefed.

The stimuli for both groups were taken from the testimony relating to the scandal, by Michael Horn, the former CEO of Volkswagen Group of America, to US Congress on October 8<sup>th</sup> 2015. In total, the testimony lasted for three hours and twenty-five minutes. This was edited down into just over three minutes of video footage per condition. The treatment group was presented with two videos that constituted a *trust*

*repair manipulation*. In the first video seen by the treatment group, which lasted just over two minutes, participants saw a section of the testimony in which the CEO provided a five-point plan of action that the company will undertake to deal with the scandal and to ensure that such an event cannot happen again (Lockey, 2016a). See **Appendix H** for a transcript of this video. In the second video, which lasted just over a minute, the CEO described substantive remedies that the company had already undertaken to provide assistance for Volkswagen dealers, including a discretionary fund that could be used by dealers to assist customers as they see fit (Lockey, 2016b). **Appendix I** contains the second video that the treatment group watched. Here, the actions taken by the CEO in the *trust repair* videos map on to the first two stages of Gillespie & Dietz's (2009) model of organizational trust repair, as shown in **Table 8.2**

The control group saw two videos of a similar length to those in the treatment condition. Again, the focus of the videos was the CEO, but there was no information pertaining to trust repair efforts. Instead, in the first video, which lasted about two minutes, the CEO gave a timeline of events relating to the scandal (Lockey, 2016c). In the second video, which lasted just under a minute, he provided an explanation as to how the defeat device software was able to discern whether a vehicle was under laboratory testing conditions or being used on a road. (Lockey, 2016d).

**Table 8.2 – Evidence of Study 3 Treatment Group Manipulation Quotes, Response Types and Trust Repair Stage**

Quote	Response Type	Trust Repair Stage (Gillespie & Dietz, 2009)
“I apologise on behalf of everyone at Volkswagen. We will fully cooperate with the responsible authorities. We will find remedies for our customers, and we will work to ensure that this will never happen again”.	Apology	Immediate response
“We are conducting investigations on a worldwide scale as to how these matters could have happened. Responsible parties will be identified and held accountable”.	Explanation	Immediate response
“Technical teams are working tirelessly to develop remedies for each of the affected group of vehicles. These solutions will be tested and validated, and then shared with the responsible authorities for approval”.	Self-regulation	Immediate response
“Also, on Friday we look very intensively to the customer remedies, and what we need to do for the customers”.	Potential penance	Immediate response
“Coming towards October, now, we provided every dealer around the US with a discretionary fund. With a discretionary fund which was explained to them through the district managers, sales operations managers, and which was wired to the dealers on October 1 <sup>st</sup> [...] so no accountability towards us, flexibility to solve the most urgent customer cases, or to invest, or to put the money where they think it would be fit”.	Self-regulation Penance	Reforming interventions

**Descriptive statistics.** Of the sample of 135, 65% were male. The most prevalent age range was 20-29 (37%), followed by those aged 30-39 (30%). Just under half of the sample, 47%, had attained a Bachelor’s degree level of education, or equivalent. 61 participants currently live in the UK or Ireland, 39 in the United States,



five in Germany, and 30 are categorised as “other”. Independent-samples t-tests showed no statistically significant differences between the demographics of the treatment and control groups. See **Table 8.3** for between-condition demographic information.

### Measures

In Study 2, the dependent variables considered were *willingness to trust* and *perceptions of organizational trustworthiness*. These measures were included again in Study 3, but they were altered to fit with the context of the study. For instance, the *perceptions of organizational trustworthiness* measure was adapted so that the item stems were related to Volkswagen rather than National Express. In this respect, the target was changed, and also two item stems were changed to reflect the change in industry:

- Volkswagen is a competent and effective car manufacturer (from: National Express is a competent and effective coach provider).
- Volkswagen performs its role as a car manufacturer very well (from: National Express performs its role as a coach provider very well).

The *willingness to trust* measure was also altered due to the context of the study. Rather than considering willingness to rely on using the organization to get somewhere on time or safely, as in Studies 1 and 2 considering National Express, I measured willingness to rely on Volkswagen to fix issues with affected vehicles (a) in a timely manner, (b) at no financial cost, (c) on the company’s word alone, without regulatory intervention, and (d) in a manner that would not be detrimental to the car’s performance. A reverse-coded item related to willingness to take part in a class action lawsuit against the company was also included. These items relate directly to issues surrounding the scandal. In addition, more general, trust-related attitudes were measured. Participants were also asked the extent to which they would be willing to collaborate with Volkswagen with regards to providing positive PR or marketing material for the company, how willing they would be to buy a Volkswagen vehicle the next time they are in the market for a new vehicle, and how willing they would be to

recommend Volkswagen to a family member, friend, colleague or associate in the market for a new vehicle.

Regarding the emotion-related independent variables, the PANAS and DES measures used in Study 2, were retained. Two individual difference measures used in Studies 1 and 2 were used again, namely regulatory focus and trust propensity. Prevention-orientation was significant in predicting trustworthiness in Study 1, as well as being a moderator in relationships including trustworthiness in the same study. Therefore, although it was not a significant predictor in Study 2, it was included again in the current study. Trust propensity was not predictive in either Study 1 or Study 2, but it should be included in studies of trust, at least as a control variable. Note that preliminary analyses were conducted with these variables, but they did not prove to be influential as either predictors or controls, so were excluded from further analyses. In order to keep the study at a reasonable length and to create space for new measures, the individual difference items relating to emotionality, *negative reactivity*, *emotional intensity*, and *Private Body Consciousness* were not included in the current study as they did not prove to be influential in any of the hypotheses tested in Study 2. Furthermore, the *trust repair response* measure used in Study 2 was also dropped from the current study as it did not prove to be influential. The new Study 3 measures can be found in **Appendix F**.

**Table 8.3 – Study 3 Descriptive Statistics**

	Treatment		Control	
	N	%	N	%
Gender	69	100	67	100
Male (1)	45	65.2	43	64.2
Female (2)	24	34.8	24	35.8
Age Category	69	100	67	100
Under 20 (1)	4	5.8	3	4.5
20-29 (2)	24	34.8	26	38.8
30-39 (3)	24	34.8	17	25.4
40-49 (4)	8	11.6	10	19.9
50-59 (5)	8	11.6	9	13.4
60-65 (6)	1	1.4	1	1.5
Over 65 (7)	0	0	1	1.5
Education Level	69	100	67	100
GCSEs (1)	13	18.8	10	14.9
A Level or equiv. (2)	14	20.3	9	13.4
Degree or Graduate Qual. (3)	32	46.4	33	49.3
Master's Education (4)	9	13	15	22.4
Doctorate (5)	1	1.4	0	0
Country of Birth	122	100	131	100
UK (1)	29	42.7	31	46.5
Ireland (2)	0	0	1	1.5
USA (3)	22	32.4	16	23.9
Germany (4)	3	4.4	2	3
Other (5)	14	20.6	17	25.9

Note. N = 135.

*Distrusting acts.* Regarding new measures, a new dependent variable, *distrusting acts*, was included. Given the lack of measures relating to either trusting or distrusting acts, a new measure had to be developed for this study. Originally, there were seven dichotomous items, with yes or no answers. These were as follows:

Since the Emissions Scandal, have you:

1. Altered your plans related to selling or trading in your vehicle?
2. Made a complaint to Volkswagen?
3. Made a complaint about Volkswagen (e.g. via word of mouth, on social media, via an internet forum etc.)?

4. Recommended Volkswagen to a family member, friend, colleague or associate in the market for a new car?
5. Altered your plans relating to attending a Volkswagen-sponsored or -themed event (e.g. decided not to attend an event that you originally planned to attend)?
6. Made a conscious decision to use your vehicle less than you usually would?
7. Actively discouraged a family member, friend, colleague or associate in the market for a new car from purchasing a Volkswagen vehicle?

After conducting a principal components analysis on categorical variables (CATPCA) on SPSS and supplementing this by estimating tetrachoric correlations using TETRA-COM, a program for SPSS developed by Lorenzo-Seva and Ferrando (2012), distrusting acts item 4 was deleted as it was not shown to have significant correlational relationships with any of the other items, and deletion of the item increased reliability. This is perhaps not surprising, as it was the only item that could be considered as a trusting act, rather than a distrusting one.

*Ecologically Conscious Consumer Behaviour (ECCB)*. Given that the scandal has caused environmental damage (Hall, 2015), and that many owners bought Volkswagen diesels due to their “clean” credentials, especially in the United States (Mouawad & Jensen, 2015), a measure relating to one’s environmental consciousness in consumption was deemed to be relevant. A measure relating to environmentally-friendly consumerism, the Ecologically Conscious Consumer Behavior scale (ECCB; Roberts, 1996) was adapted for use in the current study. This scale measured the frequency with which participants would purchase goods in a manner deemed to have a more positive (or less negative) effect on the environment, buy environmentally friendly products, consume in an environmentally friendly manner, or choose not to deal with organizations that are known to be environmentally unfriendly. Roberts (1996) states that the behavioural orientation of the scale may help mitigate a commonly cited issue, particularly in the green consumerism literature, that attitude does not necessarily translate to behaviour. The original measure contained 30 items, eight of these were used in Study 3. The decision to drop items was taken for parsimony, as some items were very similar to each other, and to keep the survey at a manageable length. The retained items related to dimensions such as paying more for

environmentally products, not doing business with organizations who are known to have caused environmental damage, not using household products that pollute, switching products for environmental reasons, and making an effort to buy products that are either made from recycled materials or contain fewer unrecyclable materials than alternatives. A scale was computed as a sum of the items scores, with a higher score indicating a greater level of ecologically conscious consumer behaviour. In Roberts' (1996) study, the 30-item ECCB scale had a Cronbach's alpha of .96, and it has been used other studies, primarily as a dependent variable (see Roberts & Bacon, 1997; Straughan & Roberts, 1999).

*Controllability.* Controllability was used in this study as a measure of attribution. It relates to the extent to which a situation is perceived as being controllable or uncontrollable by an organization, and was measured using four items developed by Coombs and Holladay (2004), that in turn were inspired by the Causal Dimension Scale II (McAuley, Duncan & Russell, 1992). The items are: (a) The cause of the crisis was something the organization could control, (b) The cause of the crisis is something over which the organization had no power, (c) The cause of the crisis is something that was manageable by the organization, and (d) The cause of the crisis is something over which the organization had power. Cronbach's alphas from previous studies range from .84 to .89 (Coombs & Holladay, 2004).

*Salience.* Finally, two single item measures were included in the current study to determine the extent to which participants felt informed about the scandal, and how much they cared about it. Participants were asked to fill in a blank for the following statement: "I feel \_\_\_\_ (1- Not at all informed, to 5 – Very well-informed, with a "Don't know" option coded as 6) about the scandal". A similar item was used to indicate the extent to which participants cared about the scandal: "I care \_\_\_\_ (1 – Not at all, to 4 – A lot) about the scandal".

## Results

**Data preparation.** As in Studies 1 and 2, in order to determine whether there were difference effects from Time 1 (baseline) to Time 2 (post-repair manipulation), difference scores were calculated for the dependent variables of perceived organizational trustworthiness and willingness to trust, as well as the independent mood and specific emotion variables. Positive values of these newly-created variables

would indicate a higher value at Time 2 than Time 1, and negative values would denote the opposite.

The distrusting acts summed dependent variable was significantly and positively skewed. A square-root transformation was undertaken to attempt to correct this. Although the Shapiro-Wilk test indicated that the transformed variable was still significantly skewed, visual interpretation of its histogram, Q-Q plot, and box plot suggested its data was less skewed than the original variable. Therefore, regressions relating to this measure were conducted with the transformed variable.

Analyses were first conducted controlling for whether or not participants' vehicles were affected by the scandal. However, the control proved not to be significant for any of the trust repair effect models. In the regressions testing for the effects of trustworthiness and emotion variables on trust at Time 1, it proved to be significant as a lone predictor, but when trustworthiness and the emotion variables of interest, save for joy, were added to the regression it became nonsignificant. Furthermore, it was not significant in predicting distrusting acts, when controlling for trust. Analyses were conducted again without the control variable. For those in which the affected variable did not alter results substantively, for the sake of parsimony, the results without it are presented.

**Testing for common method variance.** One problem associated with cross-sectional research designs is that they are prone to common method variance (Lindell & Whitney, 2001; Spector, 1994). I undertook Harmon's one-factor test to determine whether common method variance was present in this sample. If a single factor accounting for the majority of the variance emerges when all variables are entered in an unrotated principal components factor analysis, then the presence of common method variance is likely. Results of such an analysis indicated the existence of six factors with an eigenvalue of 1 or greater, with the first component accounting for 36% of the variance. The six factors in total accounted for 74% of the total variance. The results of these analyses do not preclude the existence of common method variance, however, collecting longitudinal data and using change scores may diminish the risk of it occurring (Doty & Glick, 1998).

**Descriptive statistics.** Full sample Cronbach's alphas, means and standard deviations are displayed in **Table 8.4**. All Cronbach's alpha scores fall within an acceptable range, with the lowest being sadness at Time 2 with an alpha score of .80.

Split-sample treatment and control descriptive information is shown in **Table 8.5**, along with independent sample t-tests to determine if there were any significant between-condition mean differences.

Independent samples t-tests show that there were a number of significant between-condition mean differences, all at Time 2 (see **Table 8.5**). A number of these would be expected, such as trustworthiness being significantly higher post-repair in the treatment group, and the negative differential emotion means of sadness, anger, and contempt being statistically significantly higher in the control group. Joy and calmness at Time 2 were both also statistically significantly higher in the treatment group than the control group, as would be expected.

**Table 8.4- Full-Sample Descriptive Statistics and Cronbach's Alphas**

	Time 1			Time 2		
	M	SD	$\alpha$	M	SD	$\alpha$
Trust	3.34	1.04	.92	3.29	1.05	.92
Trustworthiness	3.12	.60	.95	3.16	1.02	.97
Distrusting Acts Attribution	7.00	1.71	.88	--	--	--
Positive Affect	2.58	.91	.91	2.40	.92	.92
Negative Affect	1.39	.57	.90	1.40	.62	.94
Fear	1.41	.74	.87	1.34	.64	.89
Sadness	1.90	.99	.82	1.72	.93	.80
Anger	1.09	.32	.88	2.11	.93	.90
Joy	2.19	1.14	.91	1.80	1.07	.92
Calmness	2.44	1.18	.87	2.37	1.14	.89
Contempt	1.86	1.04	.89	1.78	.90	.90
ECCB	2.91	.88	.93	--	--	--
Promotion	6.45	1.42	.90	--	--	--
Prevention	5.30	1.49	.81	--	--	--
Trust Propensity	2.81	.66	.82	--	--	--

*Note.*  $N = 135$ .

**Table 8.5 – Split-sample Descriptive Statistics and t-Tests**

Variable	Treatment Group		Control Group		T
	M	SD	M	SD	
1. Trust, T1	3.45	1.04	3.22	1.04	1.29
2. Trust, T2	3.45	.99	3.13	1.09	1.82
3. Tworth., T1	3.28	1.02	2.98	.87	1.97
4. Tworth., T2	3.47	.94	2.84	1.00	3.82**
5. Distrusting Acts	.36	.48	.37	.49	-.13
6. Attribution	6.77	1.81	7.24	1.59	-1.59
7. PA, T1	2.61	.95	2.54	.87	-.02
8. PA, T2	2.40	.90	2.40	.95	-.01
9. NA, T1	1.35	.49	1.44	.63	-.89
10. NA, T2	1.33	.58	1.48	.65	-1.41
11. Fear T1	1.38	.68	1.45	.81	-.59
12. Fear T2	1.28	.54	1.40	.72	-1.12
13. Sadness T1	1.87	.99	1.93	.99	-.30
14. Sadness T2	1.54	.74	1.90	.83	-2.64**
15. Anger T1	1.76	.95	1.94	1.14	-1.04
16. Anger T2	1.50	.70	1.85	.94	-2.44*
17. Contempt T1	1.81	1.02	1.92	1.07	-.58
18. Contempt T2	1.61	.77	1.92	.99	-2.00*
19. Joy T1	2.35	1.27	2.03	.99	1.64
20. Joy T2	1.99	1.18	1.61	.89	2.14*
21. Calmness T1	2.53	1.29	2.34	1.07	.83
22. Calmness T2	2.66	1.23	2.06	.95	3.18**
23. ECCB	3.01	.94	2.96	.81	.32
24. Promotion	6.41	1.42	6.49	1.44	-.31
25. Prevention	5.21	1.64	5.40	1.32	-.76

Note. Treatment  $n = 69$ , Control  $n = 67$ .  $df$  ranged from 127 to 134, PA = Positive Affect, NA = Negative Affect, Tworth. = Trustworthiness.

\*  $p < .05$ , \*\*  $p < .01$

**Correlations.** Bivariate correlations are displayed in **Table 8.6**. Some variables were excluded from this table in order to save space. The variables that proved not to be influential in Studies 1 and 2 were not included. These were trust propensity, PA Time 1 and Time 2, and promotion-orientation. In addition, the extent to which participants felt informed about the scandal was also excluded because it did not correlate significantly with any other variable.

In terms of being able to test the trust-as-process hypothesis, the most relevant correlations in **Table 8.6** are those between the three dependent variables of perceived organizational trustworthiness T1, willingness to trust T1, and distrusting acts. All had significant correlations with each other at  $p < .001$ , with perceptions of organizational trustworthiness and willingness to trust having a positive relationship (T1  $r = .89$ ,  $p$



<.001), and both having negative relationships with the distrusting acts variable. Willingness to trust had a stronger relationship with distrusting acts ( $r = -.53, p <.001$ ), than did trustworthiness ( $r = -.39, p <.001$ ).

All of the specific negative emotion variables had significant positive relationships at both time points with distrusting acts, as did NA. For perceptions of trustworthiness and willingness to trust, most of the negative emotion variables were also significant, but in a negative direction. The exception was the relationship between fear T2 and perceptions of organizational trustworthiness T1, which was not significant ( $r = -.09, p = .297$ ). NA T1 and perceptions of organizational trustworthiness T1 did not have a significant relationship at the .05-level, either ( $r = -.16, p = .062$ ). The positive specific emotions of calmness and joy both had strong positive relationships with trustworthiness and trust at both time points ( $p <.001$ ). Calmness T1 and T2, and joy T1, had significant negative relationships with distrusting acts.

Other relationships of note included the attribution of controllability, that is, the extent to which participants believed that the scandal was within Volkswagen's locus of control, having significant, negative relationships with trustworthiness ( $r = -.39, p <.001$ ) and trust ( $r = -.18, p = .036$ ) at both time points, but not correlating significantly with distrusting acts ( $r = .15, p = .081$ ). The extent to which one cares about the scandal also had extremely significant relationships, all at  $p <.001$ , with each dependent variable. Finally, whether or not one's vehicle was affected also had significant relationships with trustworthiness and trust at both time points, as well as with distrusting acts.

**Table 8.6 – Study 3 Bivariate Intercorrelations**

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.TR1	89	81	78	-53	-18	-36	-30	-58	-52	70	54	-63	-62	-40	-25	62	42	-64	-60	-31	-01	-49	35
2.TR2	--	80	86	-45	-22	-26	-19	-53	-51	69	63	-53	-57	-29	-20	59	49	-53	-56	-28	-08	-49	31
3.TW1		--	88	-39	-39	-16	-08	-51	-47	71	61	-55	-54	-23	-09	65	54	-52	-46	-22	-07	-47	33
4.TW2			--	-37	-34	-22	-20	-47	-55	64	65	-51	-57	-27	-20	58	55	-50	-52	-23	-08	-44	30
5.DA				--	15	52	40	61	43	-41	-20	60	46	60	44	-31	-15	57	43	34	08	45	-34
6.Att					--	-04	-05	25	22	-31	-32	26	24	-02	-11	-31	-39	20	16	10	18	28	-03
7.NA1						--	85	59	47	-26	-07	56	43	72	68	-16	05	60	52	15	16	25	-31
8.NA2							--	50	56	-15	-07	45	51	68	77	-07	05	52	58	13	15	15	-20
9.Sad1								--	73	-53	-36	69	55	66	54	-46	-28	72	61	38	15	56	-37
10.Sad2									--	-38	-35	67	75	52	58	-27	-25	68	72	33	14	44	-20
11.Clm1										--	78	-50	-43	-26	-16	83	65	-43	-36	-29	-10	-51	32
12.Clm2											--	-33	-35	-05	-10	67	76	-27	-27	-25	-14	-44	14
13.Ang1												--	79	56	41	-42	-20	80	70	37	04	50	-27
14.Ang2													--	44	46	-34	-25	72	79	35	15	47	-20
15.Fea1														--	76	-16	03	53	49	25	05	33	-30
16.Fea2															--	-06	03	46	52	21	06	21	-16
17.Joy1																--	70	-33	-26	-19	02	-40	33
18.Joy2																	--	-16	-11	-09	-10	-30	14
19.Cnt1																		--	81	32	12	48	-31
20.Cnt2																			--	28	06	42	-29
21.Env																				--	-12	55	12
22.Prev																					--	14	-05
23.Care?																						--	-21
24.Afct?																							--

*Note.*  $N = 135$ . TR = Trust, TW = Trustworthiness, DA = Distrusting Acts, Att = Attribution, NA = Negative Affect, Sad = Sadness, Clm = Calmness, Ang = Anger, Fea = Fear, Cnt = Contempt Env = Environmental Consumerism, Prev = Prevention, Care? = The extent to which the participant cared about the scandal, Afct? = Whether the participant's vehicle was directly affected by the scandal.

$r > |17|$  has  $p < .05$ ;  $r > |22|$  has  $p < .01$ ;  $r > |28|$  has  $p < .001$  (two-tailed)

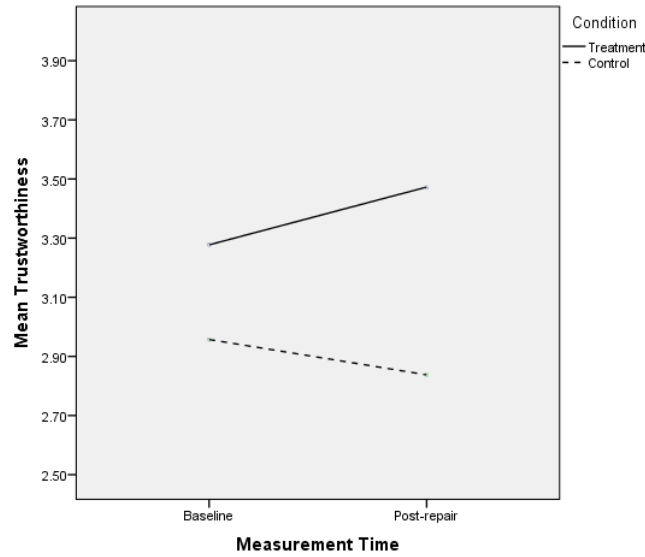
### Manipulation checks and trust repair.

Hypothesis 1 posited that there would be a significant recovery in perceptions of organizational trustworthiness from Time 1 to Time 2 in the treatment group. ANOVA results show that this was the case, as there was a statistically significant between-subject recovery effect,  $F(1, 134) = 15.59, p < .001$ . **Figure 7** shows this interaction, with the treatment group mean trustworthiness increasing from  $M = 3.28$  at Time 1 to  $M = 3.48$  at Time 2, a difference of .20. In the control group, mean trustworthiness fell from  $M = 2.96$  at Time 1 to  $M = 2.84$  at Time 2, a decline of .12. Hence, Hypothesis 1 was supported.

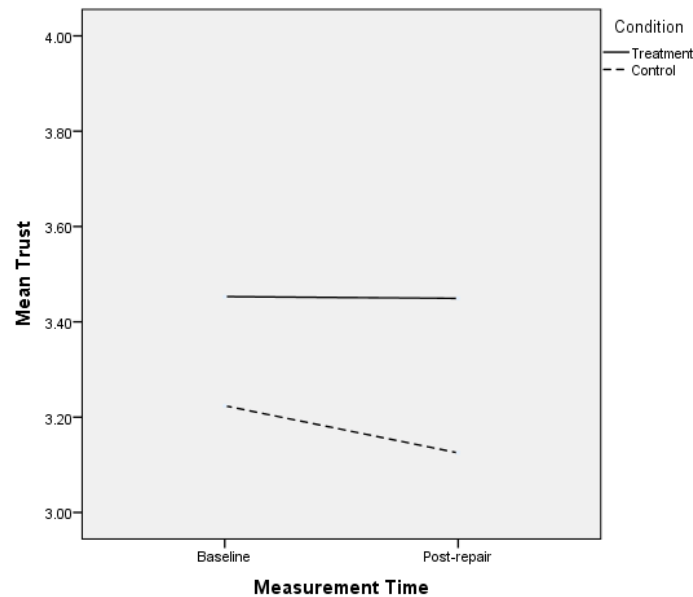
Hypothesis 2 asserted that there would *not* be a significant trust repair effect for willingness to trust, given that the trust repair effort had occurred five months prior to participants seeing it in the study and, for many, not a great deal would have substantively changed. For trust, the within-subjects interaction was not significant,  $F(1, 134) = 1.31, p = .22$ . The between-subjects effect was also not significant,  $F(1, 134) = 2.55, p = .11$ . Although the between-subject interaction effect was not significant, **Figure 8** shows that, in the treatment group, the mean level of trust held, whereas in the control group it fell. The treatment group  $M = 3.45$  at both Time 1 and Time 2, showing no change. In the control group, it fell from  $M = 3.22$  at Time 1 to  $M = 3.13$  at Time 2, a decrease of .09. As expected, Hypothesis 2 was not supported.

### Mood change and trust change.

Hypothesis 3 aimed to replicate the results found in Studies 1 and 2 relating to the relationship between NA and willingness to trust, controlling for perceptions of organizational trustworthiness, in a different context and after a different violation type (i.e. integrity-based violation rather than ability-based violation). Specifically, support for Hypothesis 3 would entail  $\Delta$  NA being predictive of  $\Delta$  trust, and remaining so when controlling for  $\Delta$  trustworthiness. See **Table 8.7** for results.



**Figure 7. Study 3 Trustworthiness Repair: Estimated Marginal Means of Trustworthiness from Baseline (Time 1) to Post-repair (Time 2).**



**Figure 8. Study 3 Trust Repair: Estimated Marginal Means of Trust from Baseline (Time 1) to Post-repair (Time 2).**

The regression of  $\Delta$  trust on  $\Delta$  NA yielded Model 1:  $F(1, 67) = 5.40, p = .023, R^2 = .08$ . Unexpectedly, the relationship was positive, suggesting an increase in NA from Time 1 to Time 2 resulted in an increase in trust from Time 1 to Time 2,  $b = .39$ . The addition of  $\Delta$  trustworthiness had a substantive influence on Model 2,  $\Delta F(2, 66) = 4.09, \Delta p = .047, \Delta R^2 = .05$  and increased the significance of  $\Delta$  NA. Indeed,  $\Delta$  NA had

a stronger influence than  $\Delta$  trustworthiness in Model 2, with a  $b$ -value of .39,  $t = 2.78$ , compared to the trustworthiness variable,  $b = .20$ ,  $t = 2.02$ .

In order to examine why this unexpected trend may have occurred, I looked closely at the data, considering individual-level data points. Specifically, I consulted scatter graphs to visually inspect for the possibility of any there were obvious outliers in the relationships between  $\Delta$  trust and  $\Delta$  trustworthiness,  $\Delta$  trust and  $\Delta$  NA, and  $\Delta$  trustworthiness and  $\Delta$  NA, as well as examining relationships of their constituent parts (i.e. trust T1 and NA T1, trust T2 and NA T2 etc.). I was unable to find any obvious outliers, and the relationships appeared to be as expected. That is, there were negative relationships between trust and NA at both time points. However, after conducting bivariate correlations on the treatment and control groups separately, it was evident that willingness to trust at Times 1 and 2 did not correlate significantly with their respective NA counterparts in the treatment group. The relationship between the Time 1 variables was as follows,  $r = -.21$ ,  $p = .089$ , and the Time 2 relationship was weaker still,  $r = -.11$ ,  $p = .377$ . In the control group, the Time 1 relationship was significant,  $r = -.48$ ,  $p < .001$ , but the Time 2 relationship was not, at least at the .05-level,  $r = -.23$ ,  $p = .06$ .

On the surface,  $\Delta$  NA was predictive of  $\Delta$  trust when  $\Delta$  trustworthiness was controlled. However, the direction of the relationship was unexpected, thus support for Hypothesis 3 was inconclusive.

### Joy, Fear and Trust Change

Hypothesis 4 was tested using hierarchical linear regressions of  $\Delta$  trust on  $\Delta$  fear and  $\Delta$  joy controlling for  $\Delta$  trustworthiness, to see if results from Study 2 could be replicated.

Results, displayed in **Table 8.7**, relating to Hypothesis 4 were unexpected, in that for the first time in any of the three studies in this thesis, emotion variables had greater influence in the control group than in the treatment group. Ultimately, however, Hypothesis 4 was not supported in either condition.

Regarding Hypothesis 4a, for the treatment group,  $\Delta$  fear was not a significant predictor of  $\Delta$  trust on its own,  $F(1, 67) = .22$ ,  $p = .641$ ,  $R^2 = <.01$ . The inclusion of  $\Delta$  trustworthiness did not result in a statistically significant model,  $\Delta F(2, 66) = 1.69$ ,  $\Delta p = .198$ ,  $\Delta R^2 = .03$ .

In the control group,  $\Delta$  fear *did* predict  $\Delta$  trust in isolation,  $F(1, 66) = .620$ ,  $p = .015$ ,  $R^2 = .09$ . The direction of the relationship was negative, as expected,  $b = -.34$ ,  $t = -2.49$  indicating that a decrease in fear from Time 1 to Time 2 correlated with an increase in trust from Time 1 to Time 2. However, although the addition of  $\Delta$  trustworthiness to the regression produced a highly significant model,  $\Delta F(2, 65) = 16.15$ ,  $\Delta p < .001$ ,  $\Delta R^2 = .18$ , it rendered the effect of  $\Delta$  fear nonsignificant at the .05 level,  $b = -.25$ ,  $t = 1.99$ . Hence, Hypothesis 4a was not supported in neither the treatment group, nor the control group.

Results relating to Hypothesis 4b, which posited that  $\Delta$  joy would predict  $\Delta$  trust, controlling for  $\Delta$  trustworthiness, mirrored those of Hypothesis 4a. Specifically, in the treatment group  $\Delta$  joy was not predictive of  $\Delta$  trust, neither as a lone predictor,  $F(1, 67) = 1.46$ ,  $p = .232$ ,  $R^2 = .02$ , nor controlling for  $\Delta$  trustworthiness,  $b = .05$ ,  $t = .87$ , total model,  $\Delta F(2, 66) = 1.11$ ,  $\Delta p = .296$ ,  $\Delta R^2 = .02$ .

Control group results show that  $\Delta$  joy significantly influenced  $\Delta$  trust as a sole predictor,  $F(1, 66) = 2.45$ ,  $p = .017$ ,  $R^2 = .09$ , however the addition of  $\Delta$  trustworthiness in Model 2 caused the effect of  $\Delta$  joy to fall below statistical significance at the .05-level,  $b = .13$ ,  $t = 1.96$ . The full model accounted for 27% of the variance in  $\Delta$  trust,  $\Delta F(2, 65) = 16.23$ ,  $\Delta p < .001$ ,  $\Delta R^2 = .19$ . These results show that Hypothesis 4b was not supported.

As with the analyses concerning Hypothesis 3, given that an unexpected effect occurred, I conducted a similar process with regards to checking the difference score relationships and their constituent parts for individual-level anomalies, such as outliers. I was unable to find any. Furthermore, inspection of full-sample bivariate correlations, split-sample bivariate correlations, and partial correlations controlling for condition did not indicate any unusual relationships or effects. Thus, it appears unlikely that the effects were caused by a statistical artefact.

**Table 8.7 - Incremental Variance in Predicting Trust Change (Time 2 – Time 1) from Change in Emotion Variables and Trustworthiness (Time 2 – Time 1)**

IV	Model 1				Model 2			
	B	t	R <sup>2</sup>	ΔR <sup>2</sup>	B	t	R <sup>2</sup>	ΔR <sup>2</sup>
Treatment								
Δ NA	.33	2.32*	.08*	--	.39	2.78**	.13*	.05*
Δ TW	--	--	--	--	.20	2.02*	--	--
Δ Fear	-.04	-.47	<.01	--	-.03	-.33	.03	.03
Δ TW	--	--	--	--	.13	1.23	--	--
Δ Joy	.07	1.21	.02	--	.05	.87	.04	.02
Δ TW	--	--	--	--	.11	1.05	--	--
Control								
Δ NA	-.08	-.36	<.01	--	.13	.68	.23**	.23**
Δ TW	--	--	--	--	.59	4.37**	--	--
Δ Fear	-.34	-2.49**	.09*	--	-.25	-1.99	.27**	.18**
Δ TW	--	--	--	--	.52	4.02**	--	--
Δ Joy	.18	2.45*	.08*	--	.13	1.96	.27**	.19**
Δ TW	--	--	--	--	.52	4.03**	--	--

*Note.* Treatment  $n = 69$ , Control  $n = 67$ . IV = Independent variable. NA = Negative Affect, TW = Trustworthiness,  $\Delta$  = a difference score created by subtracting T1 scores from T2 scores, thus positive values indicate an increase in the variable from Time 1 to Time 2.

\*  $p < .05$ , \*\*  $p < .01$ .

The lack of support for Hypothesis 4 may not be surprising. It is unlikely that the difference between Time 1 (baseline) and Time 2 (post-trust repair effort) would be as relevant as the difference between Time 2 (post-violation) and Time 3 (post-repair effort) in Studies 1 and 2. In those previous studies, the scenario presented to participants was unlikely to have been personally relevant to them, hence it is likely that they would have been naïve participants. Put differently, they would likely have been unaware of the stimuli. On the other hand, participants in Study 3 all have some form of shared history with Volkswagen as vehicle owners. Furthermore, over 65% of the sample felt at least a little informed about the scandal, suggesting that the majority of respondents had some level of awareness of the scenario that formed the context of the study. In this respect, the Time 1 baseline measurements were likely to be more relevant and influential than the change scores.

### Mood, Emotion, and Baseline Trustworthiness and Trust

Hypothesis 5 related to the Time 1 relationships between NA and (a) trustworthiness, and NA and (b) trust. Support for Hypothesis 5 would entail NA having significant, predictive relationships with the dependent variables in question at Time 1. In addition, Hypothesis 6 posited that NA would remain a significant predictor of trust at Time 1, controlling for perceptions of organizational trustworthiness

Hypotheses 7a and 7b posited that the specific emotions of joy and fear would be predictive of willingness to trust when controlling for both perceptions of organizational trustworthiness and NA.

Results show that Hypotheses 5b and 6 were supported, but 5a was not. Linear regressions demonstrated that NA had a significant, negative relationship with willingness to trust at Time 1 (Hypothesis 5b),  $F(1, 134) = 20.51, p = <.001, R^2 = .13, b = -.67, t = -4.53$ . However, the relationship with perceptions of organizational trustworthiness (Hypothesis 5a) was not significant,  $F(1, 134) = 3.61, p = .06, R^2 = .03$ .

Regarding the relations of the specific emotions with willingness to trust at Time 1, controlling for perceptions of organizational trustworthiness and NA, neither the predictive capacity of fear (Hypothesis 7a) nor that of joy (Hypothesis 7b) was significant. The regression model of trust on NA and perceptions of organizational trustworthiness was significant,  $F(2, 133) = 162.21, p = <.001, R^2 = .71$ . However, when fear was added to the regression, the model change statistics were not significant,  $\Delta F(3, 132) = 1.89, \Delta p = .17, \Delta R^2 = <.01$ . Results are displayed in **Table 8.8**.



**Table 8.8 – Incremental Variance in Predicting Trust (Time 1) from NA (Time 1), Fear (Time 1), and Joy (Time 1)**

IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
NA	-.67	-4.53**	-.44	-5.06**	--	--
TW	--	--	.84	16.23**	--	--
R <sup>2</sup>		.13**		.71**	--	--
ΔR <sup>2</sup>		--		.58**	--	--
NA	-.67	-4.53**	-.30	-1.43	-.32	-2.56*
Fear	--	--	-.39	-2.41*	-.13	-1.37
TW	--	--	--	--	.82	15.83**
R <sup>2</sup>		.13**		.17**		.71**
ΔR <sup>2</sup>		--		.04*		.54**
NA	-.67	-4.53**	-.50	-4.15**	-.43	-4.95**
Joy	--	--	.52	8.76**	.12	2.13*
TW	--	--	--	--	.75	11.24**
R <sup>2</sup>		.13**		.45**		.72**
ΔR <sup>2</sup>		--		.32**		.27**

*Note.* N = 135. IV = Independent variable. NA = Negative Affect, TW = Trustworthiness.

\*  $p < .05$ , \*\*  $p < .01$ .

These results indicate that NA appeared to be an important predictor of trust, even when controlling for perceptions of trustworthiness. Also, it was not a significant predictor of trustworthiness, a result that was also found in Study 2, indicating that emotions influence perceptions of trustworthiness and willingness to trust differently. Fear, the most predictive of the specific emotion variables in Study 2, was not predictive of trust in the current study.

### Trustworthiness, Willingness to Trust, and Distrusting Acts

Perceived organizational trustworthiness and willingness to trust were analysed separately, to test Hypotheses 8a and 8b, which claimed that (a) perceptions of organizational trustworthiness and (b) willingness to trust would each have significant negative relationships with distrusting acts. Furthermore, to test Hypothesis 9, which claimed that willingness to trust would be a more significant predictor of distrusting acts, than perceptions of trustworthiness, both variables were included in a regression model as predictors. Results are displayed in **Table 8.9**.

In isolation, trustworthiness accounted for 15% of the variance in predicting distrusting acts,  $F(1, 134) = 22.87, p < .001, R^2 = .15$ . As expected, the direction of the relationship was negative,  $b = .31, t = -4.78$ . The addition of willingness to trust produced a stronger effect,  $\Delta F(2, 133) = 30.83, \Delta p < .001, \Delta R^2 = .16$ , and the regression weight of willingness to trust was negative and significant,  $b = -.51, t = -5.55$ . The directionality of trustworthiness reversed, and became nonsignificant,  $b = .14, t = -1.37, p = .172$ .

These results indicate that the effect of trustworthiness on distrusting acts was only significant when mediated by willingness to trust. To test this assertion, a bootstrapped (5000 iterations) mediation analysis was conducted using Hayes' (2012) Process macro for SPSS. A graphical representation of the mediation model and its effects is displayed in **Figure 9**.

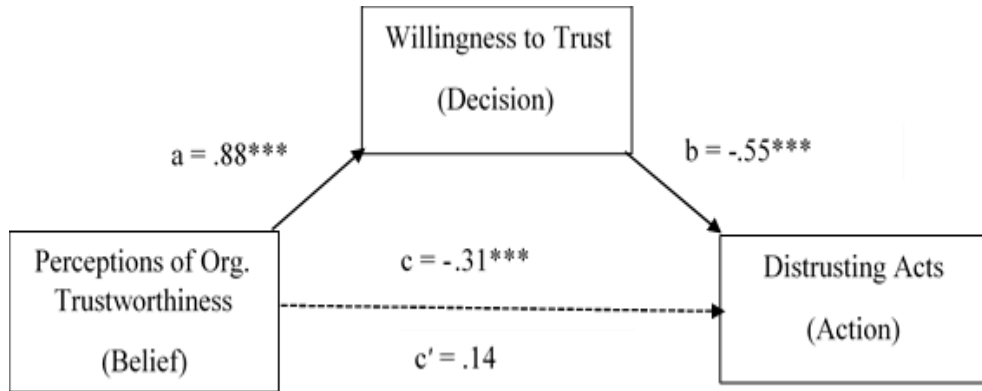
Firstly, path a, the relationship between trustworthiness and trust, was significant,  $F(1, 134) = 178.23, p < .001, R^2 = .65, b = .88, t = 13.35$ . The model of trustworthiness and trust predicting distrusting acts was also significant,  $F(2, 133) = 30.42, p < .001, R^2 = .31$ . The total effect of trustworthiness as a predictor of distrusting acts was significant (path c):  $b = -.31, t = -4.38$ , yet the direct effect (path c') was not:  $b = .14, t = 1.34, p = .18$ . The indirect effect of trustworthiness on distrusting acts via trust (path b) was significant, indicating a mediation effect:  $b = -.55, 95\% \text{ CI } [-.63, -.29]$ . Furthermore, a Sobel test indicated that the indirect effect of trust on distrusting acts was particularly influential,  $Z = -4.77, p < .001, k^2 = .33$ . These results provide support for hypotheses 8a, 8b and 9, suggesting that, although in isolation, both trust and trustworthiness were significant predictors of participants committing distrusting acts, perceptions of trustworthiness were only predictive when mediated via willingness to trust.

**Table 8.9 – Incremental Variance Explained in Predicting Distrusting Acts from Trustworthiness and Willingness to Trust (All at Time 1)**

IV	Model 1				Model 2			
	B	t	R <sup>2</sup>	ΔR <sup>2</sup>	B	t	R <sup>2</sup>	ΔR <sup>2</sup>
Trustworthiness	-.31	-4.78**	.15**	--	.14	1.37	.31**	.16**
Trust	--	--	--	--	-.51	-5.55**	--	--

Note. N = 135.

\*\*  $p < .01$ .



Note. \*\*\*  $p < .001$

**Figure 9 - Trust process model mediation effects**

**Emotions and Distrusting Acts**

Given the results obtained in Studies 1 and 2, it was expected that as NA, fear, and joy were particularly predictive of willingness to trust, they would also be predictive of the *action* component of the trust process, in this case, distrusting acts. Hypothesis 10 posited that NA would predict distrusting acts, controlling for willingness to trust. Hypotheses 11a and 11b related to the influence of fear and joy, respectively, on distrusting acts. Results pertaining to these hypotheses can be found in **Table 8.10**.

Hypothesis 10 was supported. NA had a significant, positive relationship with distrusting acts,  $F(1, 134) = 43.45, p < .001, R^2 = .25, b = .68, t = 6.60$ . It remained significant when willingness to trust was added to the regression,  $b = .47, t = 4.73$ . The complete model accounted for 40% of the variance,  $\Delta F(2, 133) = 33.83, \Delta p < .001, \Delta R^2 = .15$ .

However, when fear was included in a regression with NA and willingness to trust, NA became nonsignificant,  $b = .20, t = 1.40, p = .139$ . Model results were as

follows,  $\Delta F(3, 132) = 9.50$ ,  $\Delta p = .003$ ,  $\Delta R^2 = .04$ . Fear ( $b = .31$ ,  $t = 3.08$ ) and willingness to trust ( $b = -.28$ ,  $t = -5.24$ ), were significant. These results provided support for Hypothesis 11a, namely that fear would be a significant predictor of distrusting acts, controlling for trust.

Hypothesis 11b was not supported, as joy did not add anything to the regression of NA and willingness to trust on distrusting acts,  $\Delta F(3, 132) = .24$ ,  $\Delta p = .628$ ,  $\Delta R^2 = <.01$ .

**Table 8.10 - Incremental Variance Explained in Predicting Distrusting Acts from Willingness to Trust, NA, Fear, and Joy (All at Time 1)**

IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
NA	.68	6.60**	.47	4.73**	--	--
Trust	--	--	-.31	-5.82**	--	--
R <sup>2</sup>	--	.25**	--	.40**	--	--
$\Delta R^2$	--	--	--	.15**	--	--
NA	.68	6.60**	.47	4.73**	.20	1.96
Trust	--	--	-.31	-5.82**	-.28	-5.24**
Fear	--	--	--	--	.31	3.08**
R <sup>2</sup>	--	.25**	--	.40**	--	.44
$\Delta R^2$	--	--	--	.15**	--	.04
NA	.68	6.60**	.47	4.73**	.46	3.54**
Trust	--	--	-.31	-5.82**	-.33	-4.91**
Joy	--	--	--	--	.03	.49
R <sup>2</sup>	--	.25	--	.40**	--	.40**
$\Delta R^2$	--	--	--	.15**	--	<.01

Note. N = 135. NA = Negative Affect.

\*\*  $p < .01$ .

Results suggest that NA and fear were both influential in predicting distrusting acts, controlling for willingness to trust. These findings build on those obtained in Studies 1 and 2, extending the scope from intention to action and providing some evidence to support the idea that mood and emotion, particularly negative, are not just influential in informing trusting beliefs and decision, but also the action component of the process.

### Moderation Effects

None of the hypotheses relating to the moderating effects of attribution on the relationships between the emotions of (a) NA, (b) fear, and (c) joy with willingness to trust were supported.

Attribution was significant as a lone predictor of trust, having a negative relationship, as expected,  $F(1,134) = 4.61$ ,  $p = .034$ ,  $R^2 = .03$ ,  $b = -.11$ ,  $t = -2.15$ . It remained significant when included in a regression model with NA,  $\Delta F(2,133) = 22.16$ ,  $\Delta p < .001$ ,  $\Delta R^2 = .14$ , attribution  $b = -.12$ ,  $t = -2.49$ ,  $p = .014$ . A similar result was obtained when attribution was included as a predictor of trust with fear, NA,  $\Delta F(2,133) = 26.31$ ,  $\Delta p < .001$ ,  $\Delta R^2 = .18$ , attribution  $b = -.12$ ,  $t = -2.45$ ,  $p = .015$ . On the other hand, including joy in a regression with attribution subsumed its significance,  $\Delta F(2,133) = 75.93$ ,  $\Delta p < .001$ ,  $\Delta R^2 = .35$ , attribution  $b = .01$ ,  $t = .17$ ,  $p = .864$ . As shown in **Table 8.11**, none of the interaction effects between attribution and (a) NA, (b) fear, and (c) joy were significant.

**Table 8.11 - Interaction Effects of Attribution on the Relationships between Emotion variables and Trust (all measured at Time 1)**

IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
Attribution	-.11	-2.15*	-.12	-2.49*	-.12	-2.47*
NA	--	--	-.68	-4.71**	-.68	-4.69**
Att*NA	--	--	--	--	.01	.11
R <sup>2</sup>	--	.03*		.17**		.17**
ΔR <sup>2</sup>	--	--		.14**		<.01
Attribution	-.11	-2.15*	-.12	-2.45*	-.12	-2.40*
Fear	--	--	-.56	-5.13**	-.56	-5.09**
Att*Fear	--	--	--	--	.01	.17
R <sup>2</sup>	--	.03*		.19**		.19**
ΔR <sup>2</sup>	--	--		.16**		<.01
Attribution	-.11	-2.15*	.01	.17	-.01	-.13
Joy	--	--	.56	8.60**	.56	8.42**
Att*Joy	--	--	--	--	.03	.83
R <sup>2</sup>	--	.03*		.38**		.38**
ΔR <sup>2</sup>	--	--		.35**		<.01

*Note.* N = 135, IV = Independent variable, NA = Negative Affect, Att\*NA = the interaction between Attribution and Negative Affect, Att\*Fear = the interaction between Attribution and Fear, Att\*Joy = the interaction between Attribution and Joy.

\*  $p < .05$ , \*\*  $p < .01$ .

### Exploratory Analyses

The hypotheses related to emotions in this study aimed to replicate results found in Studies 1 and 2, so NA, fear, and joy were the focus. However, given that the organizational failure in the current study was one of integrity rather than ability, as in Studies 1 and 2, it was likely that the emotions felt by participants would be different. Specifically, prior research suggests that anger and contempt may be particularly salient in the aftermath of an integrity failure (Chen et al., 2013; Tomlinson & Mayer, 2009). To test this claim, the specific emotions of anger and contempt were analysed in the same manner as fear and joy were in hypothesis testing. Namely, they were analysed for trust repair effects, as predictors of baseline trust, controlling for perceptions of organizational trustworthiness and NA, and as predictors of distrusting acts.

Furthermore, hypotheses related to attribution predicted that it would moderate the relationships between the emotion variables of (a) NA, (b) fear, and (c) joy and willingness to trust. These assertions were not supported. I undertook further exploratory analyses to determine whether attribution perceptions may moderate the trust process, or if they influenced specific emotional reactions of fear and anger, as proposed by Tomlinson and Mayer (2009), or contempt, as proposed by Chen et al. (2011).

Finally, I undertook further exploratory analyses to determine possible moderation effects of (a) personal salience of the scandal with respect to whether participants' vehicles were directly affected by it, (b) the extent to which participants cared about the scandal, and (c) how informed participants felt about the scandal on the trust process.

*Trust repair effects.* With regards to trust repair effects, in the treatment group, neither  $\Delta$  anger nor  $\Delta$  contempt were predictive of  $\Delta$  trust, neither in isolation nor controlling for  $\Delta$  trustworthiness. However, in the control group, both independent variable change scores were predictive of  $\Delta$  trust, controlling for  $\Delta$  trustworthiness. These unexpected effects mirror those found in the testing of Hypothesis 4, pertaining to the trust repair effects of (a)  $\Delta$  fear, and (b)  $\Delta$  joy. Inspection of individual-level data suggested that there were no obvious outliers in either group. In addition, visual analysis of the scatter plots of the constituent parts of each relationship of interest, and their bivariate correlations, showed that the direction of all relationships were as expected.

These results are similar to those pertaining to the unexpected results in Hypothesis 3, relating to the positive relationship between  $\Delta$  NA and  $\Delta$  trust in the treatment group, and Hypothesis 4, relating to the relationships between (a)  $\Delta$  fear and  $\Delta$  trust, and (b)  $\Delta$  joy and  $\Delta$  trust that were stronger in the control group than the treatment group. Given this set of results, and the individual-case analyses I conducted on them, it seems as though the treatment condition manipulation did not work as expected. Possible reasons for this occurrence are discussed further in this chapter's Discussion section.

$\Delta$  Anger was a significant predictor of  $\Delta$  trust in the control group,  $F(1, 65) = 13.92, p < .001, R^2 = .18, b = -.39, t = -3.73$ , and remained so with the addition of  $\Delta$

trustworthiness in Model 2,  $b = -.30$ ,  $t = -3.08$ . The full model accounted for 33% of the variance in  $\Delta$  trust,  $\Delta F(2, 64) = 14.14$ ,  $\Delta p < .001$ ,  $\Delta R^2 = .15$ .

Results for contempt were similar as to those of anger. As a lone predictor of  $\Delta$  trust,  $\Delta$  contempt was statistically significant,  $F(1, 65) = 13.46$ ,  $p < .001$ ,  $R^2 = .17$ ,  $b = -.45$ ,  $t = -3.67$ . With the inclusion of  $\Delta$  trustworthiness to the regression,  $\Delta$  contempt remained a significant predictor of  $\Delta$  trust,  $b = -.29$ ,  $t = -2.36$ . The model results were as follows,  $\Delta F(2, 64) = 10.43$ ,  $\Delta p = .002$ ,  $\Delta R^2 = .17$ . These results indicate that  $\Delta$  anger had a stronger influence in predicting  $\Delta$  trust than  $\Delta$  contempt did, at least in isolation. To further test the relationship between these two variables and their influence on  $\Delta$  trust, they were included together in a regression with  $\Delta$  trustworthiness.  $\Delta$  Anger was a more significant predictor of  $\Delta$  trust when controlling for  $\Delta$  trustworthiness. Indeed, while the anger variable remained significant in this regression,  $b = -.25$ ,  $t = -2.41$ ,  $p = .019$ ,  $\Delta$  contempt was not,  $b = -.19$ ,  $t = -1.48$ ,  $p = .145$ . Results are displayed in **Table 8.12**.



**Table 8.12 - Incremental Variance in Predicting Trust Change (Time 2 – Time 1) from Change in Anger and Trustworthiness, and Change in Contempt and Trustworthiness (Time 2 – Time 1)**

IV	Model 1		Model 2	
	B	t	B	t
<b>Treatment</b>				
Δ Anger	.07	1.06	.08	1.14
Δ TW	--	--	.14	1.41
R <sup>2</sup>	--	.02	--	.03
ΔR <sup>2</sup>	--	--	--	.05
Δ Contempt	-.08	-1.21	-.08	-1.21
Δ TW	--	--	.13	1.32
R <sup>2</sup>	--	.02	--	.05
ΔR <sup>2</sup>	--	--	--	.03
<b>Control</b>				
Δ Anger	-.39	-3.73**	-.30	-3.08**
Δ TW	--	--	.48	3.76**
R <sup>2</sup>	--	.18	--	.33
ΔR <sup>2</sup>	--	--	--	.15
Δ Contempt	-.45	-3.67**	-.29	-2.36*
Δ TW	--	--	.44	3.23**
R <sup>2</sup>	--	.17	--	.29
ΔR <sup>2</sup>	--	--	--	.12

*Note.* Treatment  $n = 69$ , Control  $n = 67$ . IV = Independent variable, TW = Trustworthiness,  $\Delta$  = a difference score created by subtracting T1 scores from T2 scores, thus positive values indicate an increase in the variable from Time 1 to Time 2.

\*  $p < .05$ , \*\*  $p < .01$ .

*Baseline trust.* Both anger and contempt predicted baseline willingness to trust, controlling for perceptions of organizational trustworthiness and NA (See **Table 8.13**). Results for contempt were as follows,  $\Delta F(3, 132) = 10.79$ ,  $\Delta p = .001$ ,  $\Delta R^2 = .02$ ,  $b = -.22$ ,  $t = -3.29$ . Contempt was the only one of the specific emotions to have a stronger effect than NA, NA  $b = -.23$ ,  $t = -2.13$ ,  $p = .035$ . Including anger in the regression model with NA and perceptions of organizational trustworthiness produced the following,  $\Delta F(3, 132) = 5.52$ ,  $\Delta p = .020$ ,  $\Delta R^2 = .01$ ,  $b = -.16$ ,  $t = -2.35$ . However, when both anger and contempt were included in regressions with NA and perceptions of organizational trustworthiness, contempt appeared to subsume the effect of anger, and

NA dropped below significant at the .05 level. The regression coefficient for anger was as follows,  $b = -.05$ ,  $t = -.61$ ,  $p = .542$ . NA was also nonsignificant,  $b = -.21$ ,  $t = -1.93$ ,  $p = .056$ , but contempt proved to be significant,  $b = -.19$ ,  $t = -2.33$ ,  $p = .022$ . The total model accounted for 72% of total variance in willingness to trust at Time 1, although the increase in variance from Model 3 to Model 4 was only 2%.  $\Delta F(4, 131) = 5.56$ ,  $\Delta p = .005$ ,  $\Delta R^2 = .02$ .

These results indicate that, of the emotion variables of interest, contempt appeared to be particularly influential in predicting willingness to trust.

**Table 8.13- Incremental Variance in Predicting Trust from Negative Affect, Anger, Contempt, and Trustworthiness (all measured at Time 1)**

IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
NA	-.67	-4.53**	-.44	-5.06**	-.30	-2.90**
Tworth.	--	--	.84	16.24**	.76	12.40**
Anger	--	--	--	--	-.16	-2.35*
R <sup>2</sup>	.13**		.71**		.72**	
$\Delta R^2$	--		.58**		.01*	
NA	-.67	-4.53**	-.44	-5.06**	-.23	-2.13*
Tworth.	--	--	.84	16.24**	.73	12.48**
Contempt	--	--	--	--	-.22	-3.29**
R <sup>2</sup>	.13**		.71**		.73**	
$\Delta R^2$	--		.58**		.02*	
NA	-.67	-4.53**	-.44	-5.06**	-.21	-1.93
Tworth.	--	--	.84	16.24**	.72	11.67**
Anger	--	--	--	--	-.05	-.61
Contempt	--	--	--	--	-.19	-2.33*
R <sup>2</sup>	.13		.71**		.72**	
$\Delta R^2$	--		.58**		.02**	

Note.  $N = 135$ . IV = Independent variable. NA = Negative Affect, Tworth. = Trustworthiness.

\*  $p < .05$ , \*\*  $p < .01$ .

*Distrusting acts.* Both anger and contempt were significant predictors of distrusting acts when controlling for NA and willingness to trust, as shown in **Table 8.14**.

In Model 3, the addition of anger to the regression of distrusting acts on NA and willingness to trust resulted in a statistically significant increase in variance,  $\Delta F(3, 132) = 10.01$ ,  $\Delta p = .002$ ,  $\Delta R^2 = .04$ ,  $b = .22$ ,  $t = 3.16$ . The total model accounted for 44% of the variance in distrusting acts,  $F(3, 132) = 34.63$ ,  $p < .001$ ,  $R^2 = .44$ .

Results for contempt were similar to those for anger,  $\Delta F(3, 132) = 8.35$ ,  $\Delta p = .005$ ,  $\Delta R^2 = .04$ ,  $b = .22$ ,  $t = 2.89$ , with the total model accounting for 43% of the variance in distrusting acts.  $F(3, 132) = 33.71$ ,  $p < .001$ ,  $R^2 = .43$ .

When both anger and contempt were included in a regression with NA and willingness to trust, neither was significant. This may have been caused by shared variance between the variables. There was a strong bivariate correlation between anger at Time 1 and Contempt at Time 1,  $r = .80$ ,  $p < .001$ . It is also likely that both specific emotion variables also shared variance with NA, as both had large correlations with the mood variable. For anger, the relationship was as follows,  $r = .56$ ,  $p < .001$ , and for contempt,  $r = .60$ ,  $p < .001$ .

Such effects did not appear to occur in the regression analyses conducted on the willingness to trust variable. This may be due to the relationships between NA and the dependent variables (willingness to trust  $r = -.36$ ,  $p < .001$ , distrusting acts  $r = .52$ ,  $p < .001$ ). Although these relationships were significant, the effect size of the relationship between NA and willingness to trust was moderate, whilst the relationship between distrusting acts and NA was large. Furthermore, it is evident that the correlations of the emotion variables on distrusting acts all fall within a similar range (NA  $r = .52$ , anger  $r = .60$ , contempt  $r = .57$ ), whereas the same correlations involving willingness to trust show a pattern where both anger and contempt have a similar effect size, yet NA is comparatively lower (NA  $r = -.36$ , anger  $r = -.63$ , contempt  $r = -.64$ ).

Considering the set of results relating to the influence of anger and contempt together, it appears that one was not significantly more influential than the other across the entire trust process. With regards to trust repair effects, although neither were influential in the treatment group, in the control group  $\Delta$  anger appeared to be more relevant than  $\Delta$  contempt in predicting  $\Delta$  trust. For baseline willingness to trust, contempt seemed to be particularly influential, apparently subsuming the effect of anger. For distrusting acts, although results are not clear, it is likely that both anger and contempt were predictive.

**Table 8.14 - Incremental Variance Explained in Predicting Distrusting Acts from Willingness to Trust, NA, Anger, and Contempt (All at Time 1)**

IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
NA	.68	6.60**	.47	4.73**	--	--
Trust	--	--	-.31	-5.82**	--	--
R <sup>2</sup>	.25**		.40**		--	
ΔR <sup>2</sup>	--		.15**		--	
NA	.68	6.60**	.47	4.73**	.31	2.92**
Trust	--	--	-.31	-5.82**	-.20	-3.27**
Anger	--	--	--	--	.22	3.16**
R <sup>2</sup>	.25**		.40**		.44**	
ΔR <sup>2</sup>	--		.15**		.04**	
NA	.68	6.60**	.47	4.73**	.30	2.68**
Trust	--	--	-.31	-5.82**	-.21	-3.26**
Contempt	--	--	--	--	.22	2.89**
R <sup>2</sup>	.25**		.40**		.43**	
ΔR <sup>2</sup>	--		.15**		.04**	
NA	.68	6.60**	.47	4.73**	.27	2.34*
Trust	--	--	-.31	-5.82**	-.18	-2.71**
Anger	--	--	--	--	.16	1.85
Contempt	--	--	--	--	.12	1.36
R <sup>2</sup>	.25**		.40**		.45**	
ΔR <sup>2</sup>	--		.15**		.05**	

Note.  $N = 135$ . NA = Negative Affect.

\*\*  $p < .01$ .

*Attributions of controllability (attribution) and the trust process.* The influence of attribution on each stage of the trust process was interesting in that it was a strong predictor of perceptions of organizational trustworthiness, remained a predictor of willingness to trust, although to a lesser extent, and was not significant in predicting distrusting acts. It did not moderate the relationships between either perceptions of organizational trustworthiness and willingness to trust, or willingness to trust and distrusting acts. Results are displayed in **Table 8.15**.

Attribution was influential in predicting perceptions of organizational trustworthiness,  $F(1, 134) = 24.10, p < .001, R^2 = .15, b = -.22, t = -4.91$ .

Although attribution predicted willingness to trust,  $F(1, 134) = 4.61, p = .034, R^2 = .03, b = -.11, t = -2.15$ , when perceived organizational trustworthiness was included in the regression, the relationship between attribution and willingness to trust switched sign. The full model statistics were as follows,  $\Delta F(2, 133) = 261.63, \Delta p < 001, \Delta R^2 = .64$ , attribution  $b = 10, t = 2.92$ . Model 3 indicates that the interaction term of attribution x trustworthiness did not provide a better model fit,  $\Delta F(3, 132) = 3.38, \Delta p = .068, \Delta R^2 = .01$ .

The change in the sign of the attribution coefficient from negative in Model 1 to positive in Model 2 may have been caused by multicollinearity. Perceptions of organizational trustworthiness had strong correlations with both willingness to trust,  $r = .80, p < .001$ , and attribution,  $r = -.39, p < .001$ . The relationship between willingness to trust and attribution, whilst statistically significant, was comparatively weaker than the two relationships previously described,  $r = -.18, p = .034$ .

Attribution did not predict distrusting acts directly,  $F(1, 134) = 2.67, p = .104, R^2 = .01, b = .06, t = 1.64$ . The inclusion of trust to the model proved significant,  $\Delta F(2, 133) = 52.84, \Delta p < 001, \Delta R^2 = .28$ . When the interaction term of attribution x trust was added to a regression of distrusting acts on attribution and trust, it did not have any influence on the overall model,  $\Delta F(3, 132) = .03, \Delta p = .870, \Delta R^2 = .00$ .

**Table 8.15 - Interaction Effects of Attribution on the Relationships between Trustworthiness and Willingness to Trust, and Willingness to Trust and Distrusting Acts (all measured at Time 1).**

IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
DV: Trustworth.						
Attribution	-.22	-4.91**	--	--	--	--
R <sup>2</sup>	--	.15**	--	--	--	--
ΔR <sup>2</sup>	--	--	--	--	--	--
DV: Trust						
Attribution	-.11	-2.15*	.10	2.92**	.08	2.21*
Trustworthiness	--	--	.95	16.18**	.92	15.59**
Att*TW	--	--	--	--	.06	1.84
R <sup>2</sup>	--	.03*		.67**		.68**
ΔR <sup>2</sup>	--	--		.64**		.01
DV: DA						
Attribution	.06	1.64	.02	.57	.02	.59
Trust	--	--	-.40	-7.27**	-.40	-6.98**
Att*Trust	--	--	--	--	-.01	-1.16
R <sup>2</sup>	--	.02		.30**		.30**
ΔR <sup>2</sup>	--	--		.28**		.00

Note.  $N = 135$ , IV = Independent Variable, DV = Dependent Variable, DA = Distrusting Acts, Att\*TW = the interaction between Attribution and Trustworthiness, Att\*Trust = the interaction between Attribution and Trust.

\*  $p < .05$ , \*\*  $p < .01$ .

*Attribution and specific emotions.* Tomlinson and Mayer (2009) posited that casual attribution would influence the specific emotions of fear and anger, which would in turn influence perceptions of trustworthiness, and ultimately, trust. Anger is likely to be particularly relevant after an integrity violation, as is contempt (Chen et al., 2011). Results of analyses into the influence of attribution perceptions on specific emotions, displayed in **Table 8.16**, indicate that attribution predicted anger and contempt, but not fear.

Of the three specific emotions analysed in these analyses, attribution was the strongest predictor of anger,  $F(1, 134) = 9.97$ ,  $p = .002$ ,  $R^2 = .07$ ,  $b = .06$ ,  $t = 3.16$ . Attribution also predicted contempt, but to a lesser extent,  $F(1, 134) = 5.75$ ,  $p = .018$ ,  $R^2 = .04$ ,  $b = .12$ ,  $t = 2.40$ . Finally, attribution was not a significant predictor of fear,  $F(1, 134) = .64$ ,  $p = .801$ ,  $R^2 = .00$ ,  $b = -.01$ ,  $t = -.25$ .

Taken as a whole, these results suggest that although attribution perceptions may be important early in the trust process, their influence is likely to wane as it develops, and may be superseded by one's emotional response to an event.

**Table 8.16 - The Variance Predicted by the Regressions of Anger, Contempt, and Fear on Attribution Perceptions**

IV	B	t	R <sup>2</sup>
Anger	.16	3.16**	.07**
Contempt	.12	2.40*	.04*
Fear	-.01	-.25	.00

Note.  $N = 135$ . IV = Independent variable

*Vehicle affectedness, salience, and knowledge of the scandal as moderators of the trust process.* It is likely that participants would have different feelings about the scandal based on whether it affected their vehicles directly, how much they cared about it, and how informed they felt about it. Hence, these factors may influence the trust process in terms of being potential moderators. To test this possibility, I undertook moderation analyses and included each of the potential moderating variables of (a) vehicle affectedness, (b) the extent to which participants cared about the scandal, and (c) how informed participants felt about the scandal on the relationships between (a) perceived organizational trustworthiness and willingness to trust, and (b) willingness to trust and distrusting actions.

Results for the relationship between trustworthiness and trust indicated that none of the proposed moderator variables had significant interaction effects. Results are presented in **Table 8.17**.

Whether participants' vehicles were affected by the scandal predicted willingness to trust,  $F(1, 105) = 14.21, p < .001, R^2 = .12, b = -.76, t = -3.79$ , however, the introduction of perceptions of organizational trustworthiness into the regression rendered it nonsignificant,  $b = -.15, t = -1.32$ . The inclusion of the interaction term of vehicle affected x trustworthiness did not increase variance significantly from Model 2 to Model 3,  $p = .534, \Delta R^2 = < .01$ , hence there was not a moderation effect.

The extent to which participants cared about the scandal predicted willingness to trust,  $F(1, 134) = 41.95, p < .001, R^2 = .24, b = -.53, t = -6.48$ . It remained significant

when the perceptions of organizational trustworthiness variable was included in Model 2,  $b = -.14$ ,  $t = -2.38$ . However, the interaction term of care x trustworthiness was not a significant predictor of trust, not increasing the variance from Model 2 to Model 3,  $p = .528$ ,  $\Delta R^2 = <.01$ .

The extent to which participants felt informed about the scandal did not predict willingness to trust.  $F(1, 134) = .01$ ,  $p = .929$ ,  $R^2 = .00$ ,  $b = .01$ ,  $t = .09$ . Including perceptions of organizational trustworthiness resulted in a significant model, but the influence of the “informed” variable remained negligible,  $b = -.01$ ,  $t = -.20$ . The interaction term of informed x trustworthiness had no influence in increasing variance explained,  $p = .290$ ,  $\Delta R^2 = <.01$ .

Results pertaining to potential moderation relationships between willingness to trust and distrusting acts are displayed in **Table 8.18**, and differed somewhat to those for the relationship between perceptions of trustworthiness and willingness to trust.

Whether the participants’ vehicles were affected by the scandal was predictive of distrusting acts,  $F(1, 105) = 11.33$ ,  $p = .001$ ,  $R^2 = .10$ ,  $b = .50$ ,  $t = 3.37$ , yet became nonsignificant with the inclusion of willingness to trust in Model 2,  $b = .21$ ,  $t = 1.55$ . The inclusion of the interaction term of affected x trust was significant,  $\Delta F(3, 103) = 4.55$ ,  $\Delta p = .036$ ,  $\Delta R^2 = .03$ ,  $b = -.27$ ,  $t = -2.14$ .

The extent to which participants cared about the scandal predicted distrusting acts in isolation,  $F(1, 134) = 36.32$ ,  $p <.001$ ,  $R^2 = .21$ ,  $b = .37$ ,  $t = 6.03$ , and also when willingness to trust was included in the regression model,  $b = .21$ ,  $t = 3.20$ . Moreover, the interaction term of care x trust was also significant in predicting distrusting acts,  $b = -.18$ ,  $t = -3.37$ .

As was the case for willingness to trust, the extent to which participants felt informed about the scandal did not predict distrusting acts,  $F(1, 134) = 1.50$ ,  $p = .223$ ,  $R^2 = <.01$ ,  $b = .08$ ,  $t = 1.22$ . The addition of perceptions of organizational trustworthiness resulted in a significant model, but the influence of the “informed” variable remained nonsignificant,  $b = .09$ ,  $t = 1.52$ . The interaction term of informed x trustworthiness had no influence in increasing variance explained,  $p = .829$ ,  $\Delta R^2 = .00$ .

These analyses indicate that moderation effects appeared to occur in the relationship between willingness to trust and distrusting acts, yet not between perceptions of organizational trustworthiness and willingness to trust. Specifically,



whether participants' vehicles were affected directly by the scandal, and the extent to which respondents cared about the scandal appeared to moderate the relationship between willingness to trust and distrusting acts. However, somewhat surprisingly, the effect of caring about the scandal seemed to be stronger than having an affected vehicle, indicating that even those not personally affected by the scandal may engage in distrusting acts towards Volkswagen if they care enough about the issue. Consultation of **Figure 10**, which shows the moderation of the condition of the vehicle (affected or not) on the relationship between willingness to trust and distrusting acts shows that the direction of both relationships is the same. That is, as number of distrusting acts increases, willingness to trust decreases. The effect is simply stronger for those with affected vehicles and those without. **Figure 11**, which displays a graph of the moderation effects of caring about the scandal a low amount, a moderate amount, and a high amount, on the aforementioned relationship. Again, the direction of each interaction effect is the same, as distrusting acts increase, trust decreases. The effect is strongest for participants who care about the scandal a lot.

**Table 8.17 - Interaction Effects of Being Personally Affected by the Scandal, How Much Participants Care About the Scandal, and How Informed Participants Feel About the Scandal on the Relationships Between Trustworthiness and Willingness to Trust (all measured at Time 1).**

IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
^Affected?	-.76	-3.79**	-.15	-1.32	-.37	-1.02
Trustworthiness	--	--	.90	15.71**	.88	12.09**
Aff*TW	--	--	--	--	.08	.62
R <sup>2</sup>	--	.12**		.74**		.74**
ΔR <sup>2</sup>	--	--		.62**		<.01
Care	-.53	-6.48**	-.14	-2.38*	-.15	-2.44*
Trustworthiness	--	--	.81	13.10**	.80	12.46**
Care*TW	--	--	--	--	.03	.63
R <sup>2</sup>	--	.24**		.67**		.67**
ΔR <sup>2</sup>	--	--		.23**		.00
Informed	.01	.09	-.01	-.20	-.02	-.31
Trustworthiness	--	--	.88	15.83**	.86	15.11**
Informed*TW	--	--	--	--	.06	1.07
R <sup>2</sup>	--	.00		.65**		.65**
ΔR <sup>2</sup>	--	--		.65**		<.01

*Note.*  $N = 135$ , ^ Affected  $n = 106$  as participants who responded “Not sure” were not included in analyses. IV = Independent Variable, Affected? = Whether the participants’ vehicle was directly affected by the Emissions Scandal, coded as 1 = Yes, 2 = No. Aff\*TW = the interaction between Affected? and Trustworthiness, Care\*TW= the interaction between Care and Trust, Informed\*TW= the interaction between Informed and Trustworthiness.

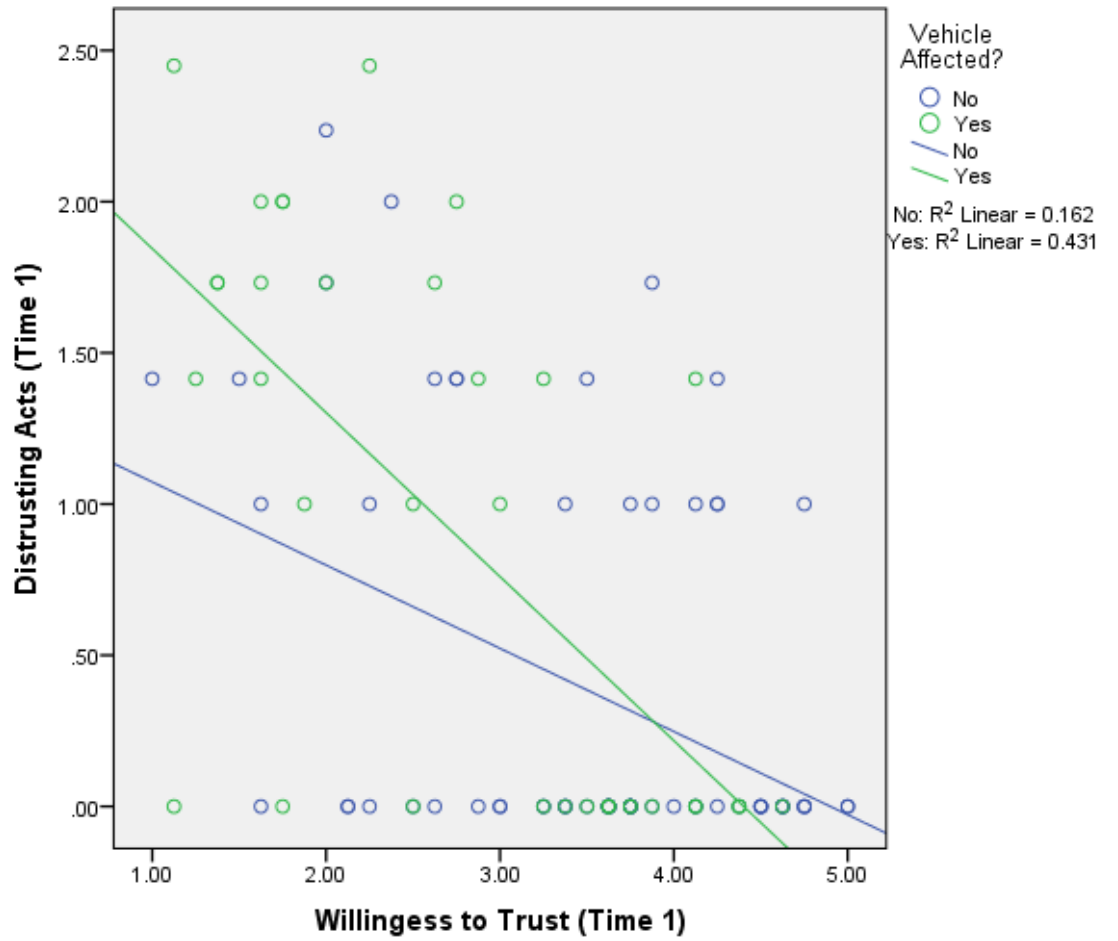
\*  $p < .05$ , \*\*  $p < .01$ .

**Table 8.18 - Interaction Effects of Being Personally Affected by the Scandal, How Much Participants Care About the Scandal, and How Informed Participants Feel About the Scandal on the Relationships Between Willingness to Trust and Distrusting Acts (all measured at Time 1).**

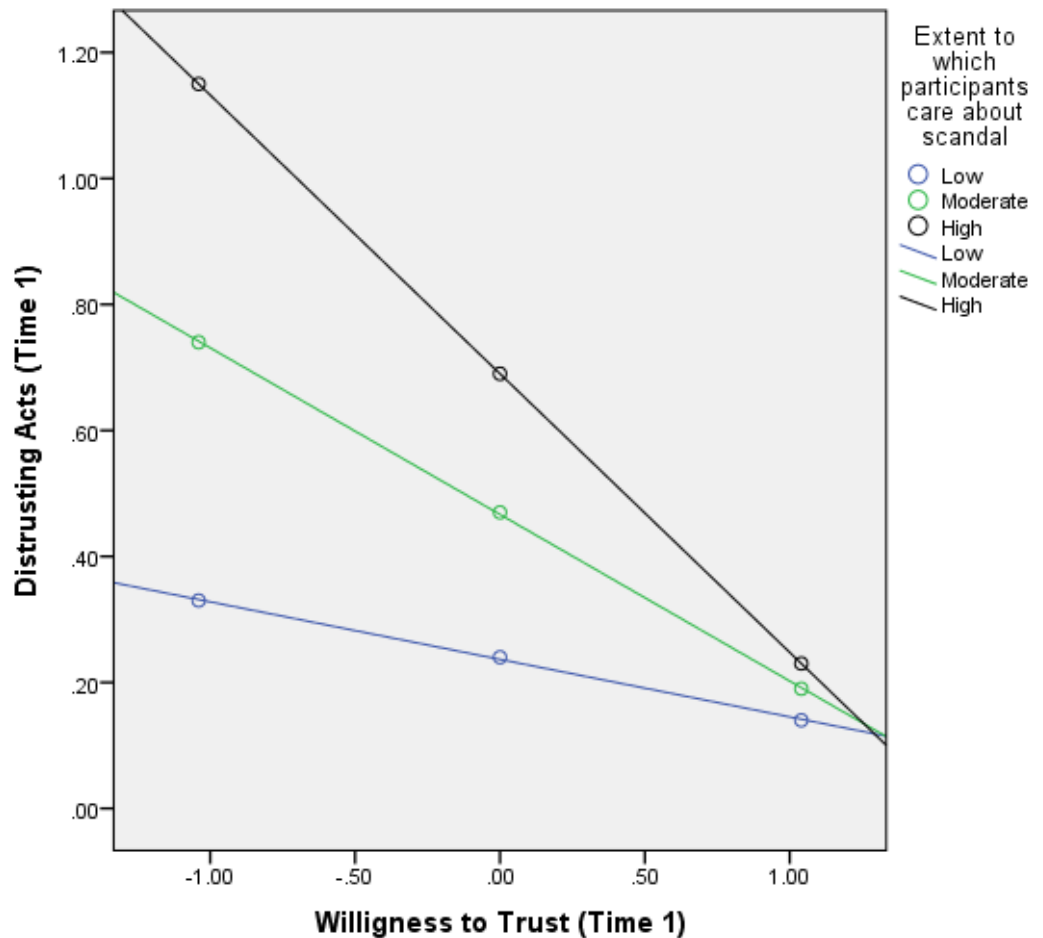
IV	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
^Affected?	.50	3.37**	.21	1.55	.16	2.53*
Trust	--	--	-.38	-6.14**	-.28	-3.48**
Aff*Trust	--	--	--	--	-.27	-2.14*
R <sup>2</sup>	--	.10**		.34**		.37**
ΔR <sup>2</sup>	--	--		.24**		.03*
Care	.37	6.03**	.21	3.20**	.24	3.76**
Trust	--	--	-.31	-5.22**	-.27	-4.50**
Care*Trust	--	--	--	--	-.18	-3.37**
R <sup>2</sup>	--	.21**		.35**		.40**
ΔR <sup>2</sup>	--	--		.13**		.05**
Informed	.08	1.22	.09	1.52	.09	1.50
Trust	--	--	-.41	-7.57**	-.41	-7.34**
Informed*Trust	--	--	--	--	-.01	-.22
R <sup>2</sup>	--	.01		.31**		.31**
ΔR <sup>2</sup>	--	--		.30**		<.01

*Note.*  $N = 135$ , ^ Affected  $n = 106$ , as participants who responded “Not sure” were not included in analyses. IV = Independent Variable, Affected? = Whether the participants’ vehicle was directly affected by the Emissions Scandal, coded as 1 = Yes, 2 = No. Aff\*Trust = the interaction between Affected? and Willingness to Trust, Care\*Trust= the interaction between Care and Willingness to Trust, Informed\*Trust= the interaction between Informed and Willingness to Trust.

\*  $p < .05$ , \*\*  $p < .01$ .



**Figure 10. Interaction effect of vehicle condition on the relationship between willingness to trust and distrusting acts.**



**Figure 11. Interaction effect of vehicle condition on the relationship between willingness to trust and distrusting acts.**

### Discussion

The first aim of the Study 3 was to attempt to replicate results obtained in Studies 1 and 2. Namely, that  $\Delta$  NA,  $\Delta$  fear, and  $\Delta$  joy would predict  $\Delta$  trust, indicating the influence of these affect variables in explaining a trust repair effect. The only treatment group result that replicated was the significance of  $\Delta$  NA, however the direction of the relationship was unexpected and may have been caused by a statistical artefact. Neither  $\Delta$  joy or  $\Delta$  fear predicted  $\Delta$  trust when  $\Delta$  trustworthiness was controlled, indicating that none of the effects found in Studies 1 and 2 replicated in Study 3. However, significant effects did occur in the control group. These counter-intuitive trust repair effects suggest that the treatment manipulation did not work as planned. Unlike in Studies 1 and 2, the control group also saw videos that included the target of the treatment group manipulation, Volkswagen USA's CEO, taken from the

same event, a congressional hearing. In Studies 1 and 2, control group participants watched video clips completely unrelated to National Express. It may be that the Study 3 treatment group saw the CEO's plan of action as "cheap talk" (Bottom et al., 2002), as the hearing took place in October 2015, and, as of the end of the data collection period in April 2016, few substantive actions had taken place to implement the plan. Furthermore, it was not expected that such trust repair effects would occur, given the personal relevance, and non-naivety of the scandal to participants.

The scenario that participants faced in the current study was very different to that used in Studies 1 and 2. Firstly, all participants in Study 3 owned a Volkswagen vehicle, even if not all were directly affected by the scandal. In this respect, there was a degree of personal involvement and understanding of the situation that may not have been present in the prior studies. Secondly, the scandal is still a very current event. It was not yet "finished" at the time data were collected, as the reparations and vehicles fixes that have been discussed by Volkswagen have not yet been finalised. In this respect, the context of the *trust repair* manipulation would likely be perceived differently in Study 3 to that in Studies 1 and 2. In the National Express scenario, the Time 2 (post-violation) to Time 3 (post-repair) differences were of primary interest, yet in Study 3, I would argue that the Time 1 results were most relevant to the understanding the interplay between emotions and trust post-violation. The violation was not part of an experimental design, as it was in Studies 1 and 2. Rather, it was a natural event that became public knowledge over six months prior to data collection. Participants would each have different levels of knowledge about the scandal and may have been influenced by factors extraneous to the study, such as the media's portrayal of the scandal. Thus, participants' personal history and context with the scandal are likely to have left strong impressions on attitudes, intentions, and behaviours towards the company. Indeed, whether one's vehicle was affected by the scandal, and the extent to which participants cared about it moderated the relationship between willingness to trust and distrusting acts. In addition, the experimental stimuli were taken from an event that took place five months before the commencement of data collection, and participants were given the date of the hearing. Hence, the treatment condition would have the benefit of hindsight in potentially knowing whether the plans outlined by the former CEO of Volkswagen Group of America had been actioned. Given the weight

of history and context available to participants, the post-repair (Time 2) results of the current study may not have been as important as those in Studies 1 and 2.

In addition to attempting to replicate previous results, another aim of the current study was to examine the action component of the trust process, something that was not measured in Studies 1 or 2. Support was provided for the hypothesised process view of trust; both trustworthiness and willingness to trust had significant, negative relationships with distrusting acts. Willingness to trust completely mediated the relationship between perceived trustworthiness and distrusting acts, as expected, perhaps due to the action-orientation of willingness to trust that is not present in perceptions of trustworthiness.

Another aim relating to the trust process was examining the effects of affect and specific emotions in it. NA was associated with Time 1 perceived organizational trustworthiness, willingness to trust, and distrusting acts. Of the specific emotions, fear, anger, and contempt also influenced distrusting acts. Moreover, anger and contempt were associated with baseline willingness to trust, controlling for trustworthiness and NA. However, when included together in a regression with the aforementioned control variables, contempt subsumed the influence of anger. Fear did not influence baseline trust when controlling for trustworthiness and NA, but it did appear to influence distrusting acts.

The prevalence of the negative specific emotions of anger and contempt in the context of an integrity-based failure is perhaps not surprising, given the moral nature of such a failure and the emotions involved. Rozin et al. (1999) developed the CAD (contempt, anger, disgust) triad hypothesis, considering “other-critical” moral emotions and how they map onto different moral codes. They found that anger related to individual rights violations, while contempt was linked to violation of community or societal codes. In an article that examined the distinct characteristics and interpersonal causes and effects of anger and contempt, Fischer and Roseman (2007) conducted a series of experiments that suggested that anger was more a short-term, attack-orientated emotion than contempt. Anger could also be a precursor to long-term reconciliation, whilst contempt was found to be characterised by both short- and long-term rejection and social exclusion. Furthermore, the experiments showed that contempt may develop out of previously experienced anger, and that lack of perceived control over the actions of another person also predicted contempt.

In relation to Study 3, given the length of time between the scandal becoming public knowledge and data collection (about five months), it is not surprising that a subtler (Izard, 1977), longer-term emotion such as contempt would prove to be more prevalent than a short-term emotion such as anger with regards to willingness to trust. However, that anger appeared to have a stronger influence on predicting distrusting acts than did contempt may be comparatively positive for Volkswagen. As stated, anger may lead to reconciliation. Indeed, a recent study by Romani, Grappi and Bagozzi (2013) hypothesised that anger was a constructive punitive action towards corporate wrongdoing, in that it was used in a way designed to try to force organizations to change their behaviour, with a view to continuing a relationship. On the other hand, contempt was considered a destructive punitive action that aimed to harm and discredit the firm, leading to disengagement with it. Romani et al (2013) tested these hypotheses empirically in an experiment and a field study and found support for both.

Although Study 3 did not explicitly aim to empirically test the differences between anger and contempt in the Volkswagen context, results do seem to provide some support for the findings of Romani and colleagues (2013). Post-hoc regressions of the effects of anger and contempt in predicting different types of distrusting behaviours were conducted by disaggregating the sum measure. Specifically, analyses were conducted on two behavioural items that signify the desire to disengage with the organization (“Have you altered your plans related to selling or trading in your vehicle?”), or the desire to discredit the firm to others (“Have you actively discouraged a family member, friend, colleague, or associate in the market for a new car from purchasing a Volkswagen vehicle?”). Results showed that contempt had a stronger influence than anger in these analyses, although both were significant. To use Romani and colleagues’ (2013) term, these behaviours could be considered as destructive punitive actions. On the other hand, analyses conducted into the effects of anger and contempt on two items that could be inferred as constructive punitive actions (“Have you made a complaint to Volkswagen” and “Have you made a complaint about Volkswagen”) showed that anger was significant and subsumed the influence of contempt.

Given the nature of the wording of the item relating to changing possible vehicle sale plans, one cannot assume that a change in decision to sell or trade in a



vehicle would infer that participants would not buy another Volkswagen in future, or indeed that such a decision must be considered as a negative behaviour. However, this behavioural item had negative relations with both willingness to trust and joy, indicating that the less willing participants were to trust Volkswagen and the less positive they felt about the company emotionally, the more likely they were to alter plans relating to selling or trading their vehicle. Hence, one may argue that engaging in such an action could be considered as a negative behaviour, as far as Volkswagen is concerned.

As discussed in Chapter 3, attribution theory underpins a great deal of the trust repair literature (Dirks et al., 2009) and has been used as a framework for understanding trust breach and repair (Tomlinson & Mayer, 2009). However, existing empirical research failed to find relations between attributional processes and post-encounter trust (Chen et al, 2013). In Study 3, the significance of attribution appeared to wane as the trust process developed; it was a stronger predictor of perceptions of trustworthiness than willingness to trust, and was not at all predictive of distrusting acts. When included in a regression with trustworthiness and anger as predictors of willingness to trust, attribution remained significant, but less so than either anger or trustworthiness. Furthermore, its relational direction changed from negative as a lone variable, to positive when trustworthiness was included in the regression, suggesting the possibility of multicollinearity. Attribution did not moderate the relationship between the negative affect variables and trust, but it did predict the specific emotions of anger and contempt. These results suggest that, while the cognitive attributions of controllability may be important early in the trust process, as the process develops from cognitive perceptions through to action its influence will be superseded by more motivation-oriented information such as emotional response. However, as with Chen and colleagues' (2013) study, the current study used a cross-sectional design. Therefore, causality could not be assumed.

Finally, exploratory analyses showed that whether a participant's vehicle was affected by the scandal, and whether they cared about the scandal moderated the relationship between willingness to trust and distrusting acts, but not perceptions of organizational trustworthiness and willingness to trust. This infers that, the closer one gets to having to take *action* the more relevant these interaction effects become, a similar general pattern as to that found for the importance of emotions. Surprisingly,

and potentially damagingly for Volkswagen, caring about the scandal appeared to matter more than actually owning an affected vehicle.

### **Limitations**

As stated in the previous paragraph, the cross-sectional nature of the study meant that inferences of causality could not be made relating to Time 1 hypotheses, which was a limitation of the research design. Therefore, I cannot discern, for example, if participants engaged in distrusting acts because they felt contempt, or feelings of contempt were made salient because they were reminded of the fact that they had engaged in distrusting acts. A further limitation is the relatively small sample size, which made conducting analyses with numerous predictor variables difficult. A fruitful avenue of future research would be to develop longitudinal design to better analyse the trust-as-process framework by measuring perceptions of trustworthiness, willingness to trust and (dis)trusting behaviours over an extended period of time.

### **Chapter Summary and Conclusions**

Study 3 built on Studies 1 and 2 by attempting to replicate prior results and including the *action* component of the trust process. Trust repair effects were not replicated in the treatment group.

Support for the proposed process view of trust was found, with both trustworthiness and willingness to trust having significant correlations with the distrusting actions measure. As expected, willingness to trust proved to be a stronger predictor of distrusting acts than perceptions of organizational trustworthiness, to the extent that willingness to trust fully mediated the relationship between perceptions of organizational trustworthiness and distrusting acts. In addition, NA and the specific emotions of fear, anger and contempt were associated with distrusting acts, indicating that emotions appear to be important throughout the trust process, and get stronger as it develops. The significance of anger and contempt, which were not influential in Studies 1 or 2, suggests that different types of violations (i.e. integrity vs. ability) trigger different emotional responses.

In the next chapter, I present a general discussion of the results of this research programme, theoretical and practical implications, and directions for future research.

## Chapter 9: Summary of Results and General Discussion

In the final chapter of this thesis, I remind the reader of the research questions posed in Chapter 5 and indicate whether they received empirical support in my suite of studies. I follow this with a general discussion of some of the key findings, and conclude by discussing the implications of my results, their limitations, and directions for future research.

### Summary of Research Questions and Results

#### Do emotions and mood predict change in trust after a trust failure, controlling for evaluations of trustworthiness? (Studies 1, 2, & 3)

**Mood.** With regards to mood,  $\Delta$  NA was shown to be a significant predictor of  $\Delta$  willingness to trust, controlling for  $\Delta$  trustworthiness, in Studies 1 and 2. In both studies, results were as expected, with a decrease in NA from post-violation (Time 2) to post-repair (Time 3) resulting in an increase in trust in the treatment groups. For state positive affect (PA), in Study 1, PA change was a predictor of trust change as a lone variable, but not when trustworthiness change was added to the regression. In Study 2, PA was not a relevant predictor of any of the dependent variables of interest.  $\Delta$  NA also predicted  $\Delta$  trust in Study 3, but the direction of the relationship was unexpected. As NA increased, trust also increased, hence the relationship ran counter to expectations and did not replicate the results found in Studies 1 and 2.

**Specific emotions.** Given the relevance of  $\Delta$  NA in predicting  $\Delta$  willingness to trust in Study 1, one of the primary aims of Study 2 was to extend the research design to include targeted, specific emotions. Specifically, participants were asked to what extent they felt the emotions of fear, joy, anger, sadness, calmness and contempt towards National Express. Results indicated that the specific emotions of  $\Delta$  joy and  $\Delta$  fear were particularly influential in predicting  $\Delta$  trust controlling for both  $\Delta$  trustworthiness and  $\Delta$  NA in Study 2. In Study 3, neither  $\Delta$  fear nor  $\Delta$  joy were associated with  $\Delta$  willingness to trust.  $\Delta$  Anger and  $\Delta$  contempt did not predict  $\Delta$  trust in the Study 3 treatment group, but both were significant in the control group, controlling for  $\Delta$  trustworthiness.

**Does regulatory focus affect trust or interact with emotions? (Studies 1, 2, & 3)**

Results pertaining to this research question generally were not supported. Although in Study 1 prevention-orientation was found to have interaction effects with the relationships between NA at Time 2 (post-violation) and perceived organizational trustworthiness, this result was not replicated in Study 2. Study 1 results also indicated that prevention-orientation had a direct, negative effect on both willingness to trust and perceived organizational trustworthiness. Again, however, these results were not replicated in Study 2. Promotion-orientation was not relevant in either Study 1 or Study 2. Neither prevention- nor promotion-orientation directly influenced any of the dependent variables of interest in Study 3, nor did they have interaction effects in the relationships between the dependent variables and any of the emotion variables (PA, NA, specific emotions).

**Do emotion-related individual differences affect trust or interact with emotions?  
(Studies 1 & 2)**

Results relating to this research question were not supported. Emotional sensitivity appeared to moderate the relationship between positive affect (PA) and trust change the treatment condition in Study 1, however no further significant relationships were found. Given the lack of predictive capacity of PA in either Study 1 or Study 2, this result did not appear to be particularly relevant.

Neither emotional reactivity nor private body consciousness, both measured in Study 2, moderated the relationships between any of the emotion variables of interest and the willingness to trust Time 2 (post-violation) to Time 3 (post-repair) difference score. However, both had direct effects on Time 1 (baseline) to Time 2 trust change. Due to the general lack of support for the emotion-related individual differences measures in Studies 1 and 2, they were not included in Study 3 in order to devote space for other, potentially more relevant measures.

**Do belief, decision, and action processes of trust form a coherent model? (Study 3)**

There appeared to be a relationship between the three components of the trust process of belief, decision, and action. These stages were operationalized in Study 3 as perceived organizational trustworthiness, willingness to trust, and engaging in distrusting acts

As expected, willingness to trust was significantly related to distrusting acts, controlling for perceived organizational trustworthiness. Moreover, analyses showed that perceptions of organizational trustworthiness only influenced distrusting acts when mediated by willingness to trust. This indicates that willingness to trust, rather than perceptions of trustworthiness, is of particular importance in relation to behavioural consequences. This finding has ramifications in the consideration of how trust is measured, a point discussed in further detail in the General Discussion.

### **Are emotions central to an integrated model that predicts distrusting acts? (Study 3)**

Further regression analyses were undertaken to determine whether relations existed between the affect variables of interest and distrusting acts. Results suggested that NA, fear, contempt, and anger were all influential in this capacity, and remained so when willingness to trust was controlled. Fear, contempt and anger were particularly important, with the specific emotions having a stronger influence on distrusting acts than willingness to trust did. Anger appeared to be the most influential of all emotion variables in relation to the *act* component of the trust process, in the context of Study 3. Neither PA nor joy, the two positive emotion variables that were measured, were predictive of engaging in a distrusting act.

## **General Discussion**

A number of research questions were posed over the course of this thesis. At its conclusion, three sets of results are particularly striking.

**Mood.** Firstly, the importance of NA as a predictor of *trust repair* effects was shown in Study 1 and replicated in Study 2. In Study 3, NA was associated with Time 1 willingness to trust and distrusting acts, suggesting that it may be influential throughout the trust process. This adds to the limited empirical knowledge we have of role of negative mood in the trust repair process. Previous empirical studies have demonstrated that positive mood may be influential in trust (Chen et al., 2013) and relationship repair (Bottom et al., 2002). Chen and colleagues (2013) found that negative events had a negative impact on consumer mood, and that positive mood helped the rebuilding of consumer trust. However, their cross-sectional research design did not allow for causal inferences to be made. My results suggest that

decreasing negative mood is particularly salient in increasing willingness to trust. The relevance of positive mood was not found in any of my studies.

Mood results can be interpreted in the context of feelings-as-information theory. This theory has a number of core principles, as discussed in Chapter 4, but the most relatable to the context faced by participants in Studies 1 and 2 is the informative function. This postulates that, in the absence of more substantive information such as personal history with or knowledge of a given context, people use their mood (“how do I feel about this?”) to assess a situation (Clore, Gaspar & Garvin, 2001; Schwarz, 2010). Given that, in both Studies 1 and 2, whether or not participants had previously been a customer of the coach company did not influence results, it appears that personal history with the organization was not an important factor. Furthermore, personal salience would likely have been very low due to the participants’ lack of active personal involvement in the studies. Thus, the informative function of the mood-as-information hypothesis may have led participants to evaluate the change in situation from post-violation to post-repair from the standpoint of: “I don’t feel as bad about this as I did before, so I am willing to trust more”. In other words, decrease in negative valence led to increase in willingness to trust.

The limitations of the feelings-as-information hypothesis may also help to explain why NA *trust repair* effects did not replicate in Study 3. Given that participants were likely to have a greater degree of external information and a personal history with Volkswagen that would make the Study 3 context salient to them, the informational value of one’s mood state would be called into question and would be unlikely to be as salient as other sources of information (Schwarz, 2010; Schwarz & Clore, 1983). Feelings-as-information theory considers specific emotions differently to general mood states. The implications of this in the context of this thesis are discussed in further detail in the following paragraphs.

**Specific emotions.** Secondly, evidence was found for the influence of certain specific emotions, although which emotions were influential varied. It may be that this depended on the context of the situation. In Study 2, the experimental stimuli related to an *ability violation*, with an outcome of personal bodily harm. For Study 2,  $\Delta$  fear was a particularly strong predictor of  $\Delta$  trust. In Study 3, the context was an *integrity violation*, in a situation in which key outcomes included potential loss, both financial and in terms of vehicle performance. For Study 3, these results did not replicate. Fear

did have a significant relation with distrusting acts, controlling for NA and willingness to trust, but it was not associated with willingness to trust as a lone independent variable. Anger and contempt were particularly relevant in Study 3, influencing both willingness to trust, controlling for perceptions of organizational trustworthiness, and distrusting acts, controlling for both willingness to trust and NA. Moreover, when each specific emotion was considered, one-by-one, in regression models with willingness to trust and NA, the effects of anger and contempt appeared to be stronger than those of fear.

There are two particular points of interest relating to these results. The first relates back to the feelings-as-information theory. The second concerns how the context of the different scenarios in Studies 2 and 3 appeared to be influential in determining which specific emotions were predictive of and particularly relevant to the dependent variables of willingness to trust and, in Study 3, engaging in distrusting acts. With regards to the first point, the informational value of specific emotions is different from general moods in ways that can be linked to the role of appraisals. Specifically, with specific emotions misattribution is less likely because there is a target to which the emotion is attached (Schwarz, 2012). In addition, specific emotions signal that an expected appraisal criterion has been met, giving us more information than a diffuse mood state. For instance, fear acts as an avoidance or withdrawal mechanism, whereas anger signals that some form of loss has occurred and is attributable to another party. Contempt also has characteristics of avoidance, but concerns the isolation of *others* rather than the withdrawal of *oneself* from a situation.

The differing relevance of specific emotions from Study 2 to Study 3 may have been influenced by a change in context. Specifically, the shift from the relevance of fear in Study 2 to anger and contempt in Study 3 was likely caused by the change in violation type from ability to integrity and salience level from low to high. The ability failure (a crash) may have caused participants to consider personal safety, evoking a fear response that may lead to the desire to psychologically withdraw from the situation (Fridja, 1986). Participants may have been scared to be willing to trust the company as it had failed in its core role of transporting passengers from one destination to another. However, this was an accident, and as people tend to weigh positive information related to competence more heavily than negative information (Kim et al., 2006), the trust repair effect of the CEO assuring the public that the organization would

take steps to ensure that such an event would not happen again may have been enough to assure participants that it was an anomaly. From this perspective, the specific emotions of anger and contempt may not have been relevant due to a lack of blame. Moreover, there was no sense of personal loss for participants, given that they were not actively involved or invested in the scenario presented to them. This aspect lessens the relevance of anger and contempt further.

On the other hand, an integrity failure may have fostered anger and contempt given that both are considered as moral emotions (Haidt, 2003; Rozin et al., 1999), and the link between integrity and morality. Indeed, anger and contempt are considered “other-critical” moral emotions that relate to the moral violations of others. Thus, they require an appraisal that a party has deliberately done wrong. In addition, moderation analyses showed that the issues of owning an affected vehicle and caring about the scandal were influential, suggesting a more salient situation than that faced by participants in Studies 1 and 2. Participants faced the possibility of loss, either physical (for those directly affected by emissions non-compliance who may suffer financially or in terms of vehicle performance) or psychological (owners, directly affected or not, who feel let down or betrayed by the actions of the company that made their vehicle). Anger may arise from loss that is attributable to an agent, whereas sadness (which did not prove to be predictive of trust in any of the studies) is more likely to occur when there is nothing to attribute the cause of the loss to (Schwarz, 2010).

In Study 3, contempt proved to be a more influential predictor of willingness to trust at Time 1 than did anger. For distrusting acts, results were not so clear. In isolation, both emotions were predictive of distrusting acts, yet when they were included in a regression together, with NA, they both became nonsignificant. This may have been caused by shared variance between the two variables, and it is likely that both had influential relationships with distrusting acts. However, further post-hoc exploratory analyses suggested that contempt was particularly influential in predicting destructive punitive actions, whereas anger predicted constructive punitive actions (Romani et al., 2013), indicating that different emotions relate to differently to particular behaviours. Anger is often used in an attempt to change the target’s behaviour to develop a more favourable outcome (Roseman, Wiest & Swartz, 1994; Fischer & Roseman, 2007), with a view to continuing the relationship (Romani et al., 2013). It has been found to relate to an approach-related motivation system (Carver &



Harmon-Jones, 2009). Contempt, although a “cooler” emotion than anger (Haidt, 2003), may have more problematic behavioural consequences from the perspective of the target as it often leads to exclusion (Fischer & Roseman, 2007) or, in an organizational sense, disengagement with a firm (Romani et al., 2013). From a motivational perspective, anger may lead people to approach a situation, whereas contempt promotes withdrawal.

The last point in relation to specific emotions relates to joy.  $\Delta$  Joy predicted  $\Delta$  willingness to trust in Study 2, but was not associated with it in Study 3. In Study 2, when participants felt more positive about the organization after the *trust repair response*, they were more willing to trust it. In Study 3, joy influenced willingness to trust, but not distrusting acts. This finding provides some support for results of previous work into the influence of positive mood on trust repair (Chen et al., 2013) and trust development (Lount, 2010), and the impact of specific emotions on trust (Dunn & Schweitzer, 2005). Although the findings for PA were not significant in any of the studies in this thesis, the relationship of the *trust repair effect* in Study 2 with the positive specific emotion of joy suggests that positive valence may lead to increased trust (Bottom et al., 2002; Chen et al., 2013; Dunn & Schweitzer, 2005), and is required for at least the willingness to trust to occur (Study 3). These results offer further contributions by extending on previous work by replicating results across two different contexts, rather than simply using a single, cross-sectional sample (Chen et al., 2013) or experiment (Bottom et al., 2002), and by shifting focus from trust (Dunn & Schweitzer, 2005) and trust development (Lount, 2010) to trust repair.

**Trust as a process and implications for trust measurement.** Finally, the trust-as-process conceptualisation received some empirical support, with distrusting acts having significant correlations with both trustworthiness and willingness to trust, and the effect of trustworthiness being subsumed by that of willingness to trust. A number of negative affect variables (i.e., NA, fear, anger, and contempt) were associated with distrusting acts, which was the operationalization of the *action* component of the process in the current investigation. Contempt and anger appeared to be particularly significant influencers of aggregated distrusting acts, and the analyses performed into disaggregated distrusting acts, explained in the previous paragraph, may provide further support for the assertion that consumer contempt may

lead to the desire to disengage or harm the target company, yet anger may indicate the desire to reconcile, or at least create a dialogue with it (Romani et al., 2013).

One of the more striking results related to the relationships between affect variables and different parts of the trust process was how differently emotion variables appeared to interact with perceived organizational trustworthiness compared to willingness to trust. In Study 2, the calmness change score was the only emotion variable to predict  $\Delta$  trustworthiness, yet it was not at all predictive of  $\Delta$  trust. In Study 3, although other emotion variables were influential in predicting  $\Delta$  trustworthiness,  $\Delta$  calmness had the strongest effect ( $p < .001$ ). Calmness is characterised by a low state of arousal (Russell, 1980), and its relationship with trustworthiness but not willingness to trust or engaging in distrusting behaviours may relate to its lack of action-orientation. As explained earlier, specific emotions such as fear, contempt and anger have motivational qualities; fear and contempt provoke withdrawal, whereas evidence suggests that anger elicits an approach response. Calmness does not possess such a motivational quality, rather, it may encourage people to neither approach nor avoid, but rather take stock of a situation and consider it from a more cogent perspective. As perceptions of trustworthiness are primarily cognitive, the relationship with calmness should be expected.

### **Conclusions and Implications for Practice and Theory Development**

The primary research questions that this thesis aimed to explore concerned the role of emotion and individual differences in the trust repair process. Three empirical studies were undertaken to answer these questions, and results suggest that negative emotions and negative mood in general *do* appear to influence both attitude and behaviour in the processes of trust and trust repair. This result is important regarding how trust is measured, and has practical implications for organizations in trying to repair trust. A number of individual differences were tested, but in general, they were not found to be influential. The lack of support in this area suggests that the cognitive-emotional process is more relevant than a person's chronic state in trust and its repair, but further investigation into these nuances is warranted.

There are three primary implications for organizational leaders to consider from this thesis. Firstly, my results suggest that reducing negative mood and emotion may make stakeholders (in this case, potential customers) more willing to trust in

organisations after an organizational failure. Therefore, organizational leaders should engage in behaviours that focus on decreasing negative affect and promoting positive affect (Williams, 2007). Secondly, Study 1 found that participants in the trust repair condition had higher levels of negative affect post-repair effort than those in the control group, perhaps indicating that the trust repair had an activation effect on participants, making the event more salient and increasing negative affect. It is possible trust repair efforts will make some people feel worse about their situation, even if they appear to “work”. Hence, it may be necessary for organizations to allow and support stakeholders to work through negative emotions and identity issues in the aftermath of a trust repair attempt. Finally, results in Study 3 show that negative emotions and low trust may relate to negative behavioural consequences for organizations, but the type of emotion experienced may determine what kind of behaviour is elicited.

Results also have theoretical implications. They indicate that the influence of emotions appears to increase as the trust process develops, and this has implications for the manner in which trust is measured. Trust is generally considered to be primarily cognitive and rational (Mayer et al, 1995), but then many studies of trust have only measured the belief component of the trust process, pertaining to (cognitive) perceptions of trustworthiness (Dietz & Den Hartog, 2006). In this respect, the assumption that trust is rational and purely cognitive may be a fair one to make. However, only considering trustworthiness does not take into account the *willingness to be vulnerable* component of trust, it only considers *positive expectations* (Dietz & Den Hartog, 2006). This is not sufficient. As per Li (2012), the consideration of trust purely as a psychological state is inflexible and does not adequately explain the multifaceted nature of the concept. The results of my studies provide compelling empirical evidence of the differing interplay between emotions, trustworthiness, willingness to trust, and (dis)trusting behaviours. If we only consider the “perceived trustworthiness paradigm” (Möllering, 2013a), then the role of emotions may not be particularly relevant. However, as the trust process develops from perception to action, so to, it seems, does the relevance of emotions. Considering perceptions of trustworthiness alone is not enough to understand the nature of trust.

### Limitations and Directions for Future Research

The research programme carried out in this thesis was not without its limitations. Difference scores were used in all of my studies, and were especially relevant in Studies 1 and 2. However, difference scores have a number of methodological problems (Edwards, 1994; 1995; 2001). Edwards indicates that using a difference score approach to both independent (Edwards, 1994) and dependent variables (Edwards, 1995) is problematic. In considering independent variables, one of the prominent methodological issues is that difference scores assume that the two components that make up the score contribute equally to the effect and are of opposite signs. If this is not the case, then the difference score will primarily represent the component with the largest variance (Edwards, 1994). The values of coefficients for difference scores confound the effects of their two constituent parts, concealing their relative contribution in predicting an outcome variable. Finally, one of the most prevalent arguments against the use of difference scores is that they can have low reliabilities compared to the reliabilities of each of their component parts measured jointly (Edwards, 2001). Each of these methodological problems make results difficult to interpret.

These issues remain when differences scores are used as dependent variables (Edwards, 1995). A problem specific to the use of difference scores as dependent variables is that they confound the effects of independent variables on the two components of the difference. Again, this makes interpreting results difficult, as it is not possible to determine whether the independent variables are related to one or both components of the difference score. Using  $X$  as the independent variable,  $Y_1$  as the pre-manipulation score and  $Y_2$  as the post-manipulation score,  $X$  may influence  $Y_1$  but not  $Y_2$ ,  $Y_2$  but not  $Y_1$ , both  $Y_1$  and  $Y_2$ , or neither  $Y_1$  nor  $Y_2$ . In calculating a difference score ( $Y_2 - Y_1 = \Delta Y$ ) and regressing it on  $X$ , it is only possible to determine the influence of  $X$  on  $\Delta Y$ . This issue becomes more problematic still when difference scores are computed for both independent variables and dependent variables in a given analysis, as was done to test many hypotheses in this thesis. In these cases, results pertain to the effects of  $\Delta X$  on  $\Delta Y$ . Such analyses cannot explain exactly how the separate components of  $X_1$  and  $X_2$  influence  $Y_1$  and  $Y_2$ , or which relationships are most relevant, given that an inherently four-dimensional relationship is reduced to two dimensions (Edwards, 2002).

On the other hand, there are times when difference scores may be appropriate or preferable to other methods. For instance, when a construct is specifically conceived of as a difference, as is the case with the difference scores I use in this thesis, interpretation of results based in the analysis of differences scores may be clearer than considering results based on constituent parts. Furthermore, difference scores use fewer degrees of freedom than does the consideration of constituent parts separately. And, the use of alternative methods to difference scores, such as polynomial and multivariate regression, discussed in further detail shortly, may require larger samples than were used in this thesis (Edwards, 1994; 1995; 2001).

The inherent problems of using difference scores may be overcome with the use of alternative approaches. Polynomial regression is one such approach that can provide answers to questions that difference scores cannot. For example, when considering independent variables, how does the level of agreement or discrepancy of the two components relate to the dependent variable, and how does the direction of the discrepancy factor in? Another advantage of polynomial regression is that it can offer greater depth of analysis by demonstrating the impact on the dependent variable (i.e.  $Y$ ) both when  $X_1 > X_2$  or when  $X_1 < X_2$ . (Edwards; 1994, 2002; Edwards & Parry, 1993; Shanock, Baran, Gentry, Pattison & Heggestad, 2010). Response surface modelling can then be used to graph the results of polynomial regression in a 3-dimensional chart to aid interpretation of polynomial regression results. Note that this approach can only be used when difference scores are used as independent variables. If difference scores are used as outcome variables, other approaches have to be taken (Edwards, 1995).

Shanock and colleagues (2010) provide a step-by-step approach for computing polynomial regressions and a corresponding response surface model. The first step involves establishing a base rate of discrepancy. To do this, Shanock et al. (2010) recommend that the predictor variables be standardised, and that any standardised score that is .05 +/- the standardised score of the other equals discrepancy. If the two independent variable values are never discrepant, then this approach is unlikely to be appropriate. The second step involves the polynomial regression. The independent variables should be centred on scale midpoint (i.e. centred at 3 on a 5-point scale), and three new variables should be computed, leaving values of:  $X(b_1)$ ,  $Y(b_2)$ ,  $X^2(b_3)$ ,  $XY(b_4)$ , and  $Y^2(b_5)$ . After running the regression, if the  $R^2$  is significantly different from

0, the four surface values of  $a_1$ ,  $a_2$ ,  $a_3$ , and  $a_4$  are tested and results can be graphed and interpreted by consulting a response surface graph:

$a_1 = (b_1 + b_2)$  – Slope of line of perfect agreement ( $X = Y$ ).

$a_2 = (b_3 + b_4 + b_5)$  – Curvature along line of perfect agreement.

$a_3 = (b_1 - b_2)$  – Slope of the line of incongruence (indicates if  $X > Y$  or  $Y > X$ ).

$a_4 = (b_3 - b_4 + b_5)$  – Curvature along line of incongruence (indicates degree of discrepancy between  $X$ ,  $Y$ , and outcome).

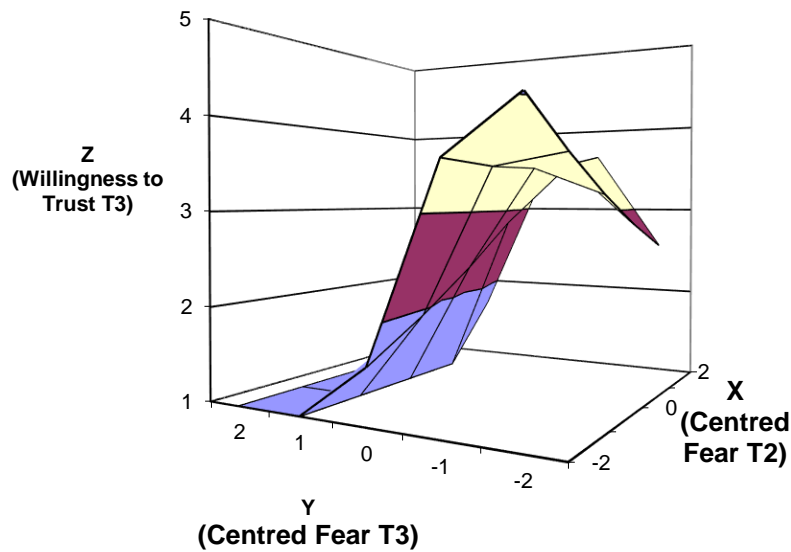
To provide an example, I performed a polynomial regression and plotted the results of fear as a predictor of willingness to trust at Time 3 from Study 2 of this thesis, using Shanock and colleagues' (2010) approach. Results are displayed in **Table 9.1**, and a three-dimensional response surface graph is shown in **Figure 12**.

The significant negative value for  $a_1$ , the slope of the line of perfect agreement, suggests that agreement between fear at Time 2 and fear at Time 3 relates to willingness to trust at Time 3, with willingness to trust decreasing as fear at Times 2 and 3 increase. Furthermore, the significant negative  $a_4$  value indicates that the degree of discrepancy between fear Time 2 and fear Time 3 is important. It denotes a concave surface, with willingness to trust decreasing more sharply as the discrepancy between fear Time 2 and fear Time 3 increases. Furthermore, visual interpretation of **Figure 12** suggests that willingness to trust is at its highest point when both Time 2 and Time 3 fear are at their lowest.

**Table 9.1 - Results of Polynomial Regression with Fear Time 2 and Time 3 Predicting Willingness to Trust Time 3 in Study 2**

Variable	<i>b</i> (se)
<i>b</i> 0 Constant	2.36** (.40)
<i>b</i> 1 X = Fear Time 2 (centred)	.45 (.49)
<i>b</i> 2 Y = Fear Time 3 (centred)	-1.80* (.72)
<i>b</i> 3 X <sup>2</sup> = Fear Time 2 squared	.03 (.14)
<i>b</i> 4 XY = Fear Time 2 x Fear Time 3	.41 (.37)
<i>b</i> 5 Y <sup>2</sup> = Fear Time 3 squared	-.70* (.31)
	<i>R</i> <sup>2</sup> .15**
<i>Surface tests</i>	
$a_1 = [b_1 + b_2]$	-1.35** (.42)
$a_2 = [b_3 + b_4 + b_5]$	-.26 (.17)
$a_3 = [b_1 - b_2]$	2.26 (1.16)
$a_4 = [b_3 - b_4 + b_5]$	-1.08** (.03)

Note.  $n = 121$ .  $b$  = unstandardized regression coefficient, se = standard error. \* $p < .05$ , \*\* $p < .01$



**Figure 12. Response surface graph for willingness to trust at Time 3 as predicted by fear at Time 2 and Time 3**

These findings appear to support the earlier results pertaining to the regression of change in willingness to trust on change in fear, in that both imply the influence of fear on willingness to trust and suggest that the difference between the two independent variables is important. However, issues remain in that polynomial regression cannot be used to analyse difference scores when they are dependent variables. Thus, in the above example, only willingness to trust at Time 3 was examined. As such, I was unable to analyse the effects of the independent variables on change in willingness to trust from post-violation to post-repair. This was a principle aim, particularly in Studies 1 and 2, as only by considering change could I make inferences about the success of a trust repair attempt.

Edwards (1995) recommends using multivariate analysis rather than difference scores when considering dependent variables. In cases where at least one of the dependent variables is exogenous, such as in studies of change, Edwards (1995) suggests regressing the post-test dependent variable (in my context, willingness to trust at Time 3) on both the independent variable(s) of interest, and the pre-test, exogenous, dependent variable (i.e. willingness to trust at Time 2). This controls for the pre-test variable by including it as a covariate. Allison (1990) claims that this approach is less

optimal than the use of difference scores in certain situations. Specifically, this is the case in randomised experimental pre-test post-test designs (see also Maxwell & Howard, 1981) where the transient components of the dependent variable are not likely to be correlated with the treatment assignment. In my example, willingness to trust at Time 2 does not influence treatment assignment, as all participants were randomly assigned to either the treatment or control group.

In sum, based on Allison's (1990) argument, the use of difference scores as dependent variables in the suite of studies conducted in this thesis seems appropriate. In considering independent variables, again, the use of difference scores in this thesis is justified given the instances of Time 2 and Time 3 NA unstandardized beta weights being opposite and equivalent in Study 1. This is demonstrated in the regression of  $\Delta$  willingness to trust on NA Time 2 ( $b = .42$ ) and NA Time 3 ( $b = -.41$ ) in the treatment group, shown in **Table 6.9**, p. 125. However, when writing for publication and in future studies, I will evaluate Edwards' (1995) approach of including the  $Y_1$  variable as a covariate in multivariate regression analysis of  $Y_2$  on relevant independent variables. Also, in future studies in which there is one dependent variable and independent variables could be considered from a difference score perspective, polynomial regression and response surface modelling may be more appropriate method to use as they are able to provide richer information on the interplay between variables.

Mood and emotion variables were measured using self-report survey instruments in each of the studies. Participants were asked to evaluate their general mood states and specific emotional feelings towards either National Express or Volkswagen. This requires cognitive evaluation and assumes that people are able to explicitly identify their emotions, which is not necessarily the case (Johnson et al., 2010). Word-stem completion measures were used in an attempt to tap into implicit affect in Studies 1 and 2, but they did not appear to be influential predictors of the dependent variables of interest.

Another limitation, relating to the analysis of the action component of the trust process in Study 3, operationalized as engaging in distrusting acts, was the cross-sectional nature of the study. This meant that causality could not be inferred. This raises the question as to what was the antecedent in the relationship, the distrusting act or the emotion. For instance, were participants more likely to engage in distrusting acts



because they felt contempt towards Volkswagen, or did they feel contempt towards Volkswagen because they were compelled to engage in distrusting acts? In addition, distrusting acts were considered in Study 3, rather than trusting acts. Distrusting acts were considered due to the context of the study, which was concerned with trust repair. I wanted to explore whether the emissions scandal had caused owners to act in a manner that would be considered distrustful because this would be more likely to constitute a change in behaviour than measures of trusting behaviours. Notwithstanding, perhaps a suite of trusting acts should also have been measured. Related to this point, further work should be undertaken in an attempt to develop a holistic set of trust and distrust behaviours that could be used over a range of contexts. The set of distrust behaviours used in Study 3 were limited by context. The same can be said for the measurement of willingness to trust and perceptions of trustworthiness; the number of disparate measures has resulted in a literature that is fragmented, and this has long been lamented within the trust community. It must be said that the measurement of willingness to trust and (dis)trusting acts in this thesis does not remedy this issue. One may argue that as trust is bound in context, so too must be the measures that define it. However, when developing concepts and their measurement, we should strive for parsimony. Therefore, further work to this end is needed.

The manner in which people are able to regulate their emotions after a trust transgression may also impact on the trust repair process and how any reconciliatory efforts are perceived by the trustor. This was not something that I measured in this thesis, but I echo the sentiment of Gillespie and colleagues (2014) in suggesting that organizations should take heed of the emotional consequences of organizational trust violations, and call for further investigation into this area.

Another aspect that was not investigated fully related to the measure of attribution I used in Study 3. It was comprised entirely of perceptions of controllability. While controllability is one of the central components of attribution theory, there are others that were not included in Study 3. For instance, just because an event is seen as controllable, it does not necessarily infer blame, nor does it take into account stability. A pertinent question relating to attribution processes is *why* Volkswagen cheated on emissions testing, and to what extent the company should be blamed for their actions. Were they purely attempting to make as much profit as possible at the expense of their customers and the environment? Were they squeezed too tightly by overly strict

regulations? Was everyone else in the industry doing it? In short, was the locus of causality internal or external? How participants respond to these questions is likely to be more salient than questions related solely to controllability. More complete measures of attribution should be included in future investigations to better understand their relevance in the trust repair process.

This research programme could be extended by using non-survey methods to measure emotions, such as physiological instruments. Implicit measures could also be explored in further detail. Further research into trust-as-process has been called for (Li, 2012; Möllering, 2013b), and this thesis has taken the conceptual framework of *belief*, *decision*, and *action* and provided some empirical evidence of how the three components link and how different emotions relate to each. However, Studies 1 and 2, which measured belief and decision, and Study 3, which contained all components, were cross-sectional snapshots with no feedback loop. As such, it was not possible to investigate the process perspective over time. One way to study this would be to undertake a longer-term qualitative longitudinal study. This could help to draw out some of the subtleties of the process and help inform inferences about it and its utility as a framework. For instance, do trusting or distrusting actions feedback to inform perceptions of trustworthiness and willingness to trust, as per expectations in Dietz and den Hartog's (2006) model? Do emotional responses to certain events affect the process? If so, are such effects sustained or do they dissipate over time? Another method would be to attempt to collect matched survey data over a longer time period. For instance, re-contacting participants who took part in Study 3 and providing the same survey with an additional question relating to whether their opinions towards Volkswagen had changed since taking part in original study could be an alternative method to examine some of these questions. What is evident is that the process perspective of trust and distrust requires further investigation, and will be central to my personal research agenda moving forward.

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## Appendix A

Summary Table of Conceptual Trust Repair Papers

<b>Author (Year)</b>	<b>Paper Aims</b>	<b>Theoretical Underpinning</b>	<b>Level of Analysis / Referent</b>	<b>Findings</b>
Bachmann et al. (2015)	The authors present a conceptual framework for organization- and institution-level trust repair, consisting of six key mechanisms: sense-making, relational approach, regulation and controls, ethical culture, transparency, and trust transference. They conclude by presenting five broad research questions and a research agenda to further understand this nascent area.	Attribution Social Equilibrium Structural	<b>Organization or Institution</b> / Multiple stakeholders to Organization or Institution	Bachmann and colleagues posit that simply considering one of their proposed trust repair mechanisms in isolation will not be sufficient to repair trust in organizations or institutions, rather a combination of approaches will be required.
Chen et al (2011)	An analysis and extension of Mayer et al.'s (1995) integrative trust model and examination of the relative amounts of positive affect associated with each dimension of trustworthiness (i.e., ability, integrity and benevolence). An exploration of how breaches of different trustworthiness expectations for a particular joint activity influence trust erosion of the overall relationship, and the identification of specific negative emotions that mediate trust breaches and trust erosion.	Attribution Affect	<b>Individual</b> / Individual to Individual	The authors adopt a situational approach that explores trust in another in a specific situation rather than trust in another in a total relationship that spans various situations and contexts. The authors also hypothesised which emotions were likely to be felt in trust breaches, depending on which component is breached. It is likely that the average negative affective emotions will be higher in breaches of benevolence, followed by integrity, followed by ability. The first emotion in each list should be lowest among the three in terms of intensity, followed by the second, with the third being the most intense.
Andiappan and Trevino (2010)	This paper presents a model of supervisor-subordinate relationship reconciliation	Attribution Social Equilibrium	<b>Individual</b> / Individual to Individual	The authors propose that the supervisors should initiate the relationship repair process. Furthermore, the more serious the subordinate perceives the breach, the higher the interdependency between the pair, and the more the subordinate attributes blame for the perceived breach, the greater the need for relationship repair is likely to be. If there is credit in the "trust reservoir" (i.e. the pair have had a good relationship in the past in the injustice/breach is

Kramer and Lewicki (2010)	A review of the current organizational trust repair literature with an exploration of how trust can be enhanced and made more durable when it is repaired	Review	Review	<p>perceived as an irregular occurrence by the subordinate) there is likely to be less need for relationship repair. Proposed repair strategies include: an adequate explanation, sincere apology and reparations. The more involved the victim in the repair process, the more likely it is to be successful and lead to forgiveness, which in turn will be linked to reduced need for revenge, retaliation/retribution, and reduction of negative feelings and emotions.</p> <p>The authors introduce the notion of <b>presumptive trust</b>, which constitutes generalised social expectations perceivers confer on the collective as a whole” (p.259). Presumptive trust is formed on three psychological bases:  <b>Identity-based trust</b> - the psychological salience of a shared organizational identity.  <b>Role-based trust</b>: based on the extent that people within an organization have confidence in the fact that role occupancy signals both the motivation to obligations and the requisite competence required for carrying them out, individuals can trust presumptively on the basis of their knowledge of role occupancy and the system of role relations, even in the absence of personalized knowledge regarding the individual in the role.  <b>Rule-based trust</b>: Organizational rules constitute norms for conduct, thus providing a formal set of collective expectations about how members of the organization ought to behave.</p>
Poppo and Schepker (2010)	The development of a framework for organizations to follow in order to repair trust with the public after a failure.	Attribution	<p><b>Organization</b> / General Public (Individual) to Organization</p>	<p>Competence-based failures are likely to be more damaging to an organization in the eyes of the public due to them being perceived as more controllable than integrity-based transgressions. Organizations are more likely to deny an integrity-based failure than admit to it. They are also more likely to apologise for actions or effects caused by competency failures without accepting responsibility for them.</p>



<p>Janowicz-Panjaitan and Krishnan (2009)</p>	<p>An investigation into how interorganizational trust may be repaired through the use of legalistic and non-legalistic remedies at the corporate and operating levels</p>	<p>Attribution Structural</p>	<p><b>Organization</b> / Organization to Organization</p>	<p>The authors split the organization into the <b>corporate</b> and <b>operational</b> levels, and believe that trust repair tactics should be different depending at which level competence or integrity violations occur, as well as their frequency and severity. <b>Operational:</b> Non-legalistic measures with internal attributions are likely to be successful in repairing trust after infrequent or in severe competence- or integrity-based violations at the operational level. However, if the violation is severe or happens frequently, legalistic measures voluntarily imposed at the corporate level are likely to be necessary after severe or frequent competence- or integrity-based transgressions at this level. <b>Corporate:</b> When competence-based violations are of low frequency, the voluntary imposition of legalistic measures is likely to repair trust. When they are of high frequency, it is likely that the partner organization will leave the collaborative partnership. The higher the trustor's dependence on the trustee, the more likely that the trustor will opt for a legalistic measure to allow the relationship to continue rather than for exit from the relationship in response to integrity-based violation.</p>
<p>Ren and Gray (2009)</p>	<p>The introduction of a process model, a causal model and a number of propositions regarding effective relationship repair, taking culture (individualist vs. collectivist) into consideration.</p>	<p>Social Equilibrium Attribution</p>	<p><b>Individual/</b> Individual to Individual</p>	<p>The authors posit that only mechanisms that address the specific needs and broken rules will result in effective trust repair: For <b>collectivists</b>, it is proposed that external explanations through a third party, apology through a third party, and demonstration of concern, are likely to be appropriate for identity violations, whilst reframing accounts through a third party, altruistic accounts through a third party, and private penance are likely to be appropriate for a control violation. For <b>individualists</b>, direct apology coupled with reframing accounts, and penance coupled with either reframing accounts or an external explanation are likely to be appropriate for identity and control violations, respectively.</p>

<p>Tomlinson and Mayer (2009)</p>	<p>Development of a theoretical framework examining the interpersonal trust repair process, how controllability, stability and locus of causality influences such efforts, and the emotional response of the trustee in this process</p>	<p>Attribution Affect</p>	<p><b>Individual/ Individual to Individual</b></p>	<p>Relating attribution theory to the perspective of the transgressor, the authors post that different trust repair responses are likely to be utilised in different scenarios.</p> <p>It is important for a response to a trust transgression to be attributed to internal and controllable factors if the locus of causality is deemed by the trustor to be internal, stable and controllable. A voluntary action is more likely to signal true remorse, repentance and desire to reform than a “forced” action (e.g. in response to media pressure). However, should the transgression be attributed to something external, outside of the trustee’s control, or something unstable and not likely to happen again, trustworthiness is not likely to be damaged as heavily as it otherwise might be if the attributions are internal, controllable and/or stable.</p>
<p>Gillespie and Dietz (2009)</p>	<p>To introduce a model of organization-level trust repair that organizations can use to repair trust amongst employees after they have committed a transgression.</p>	<p>Attribution Structural</p>	<p><b>Organization / Employees (Individual) to Organization</b></p>	<p>The four stages of the model proposed by the authors are as follows:</p> <ol style="list-style-type: none"> <li>1. Immediate Response</li> <li>2. Diagnosis</li> <li>3. Reforming Interventions</li> <li>4. Evaluation</li> </ol> <p>Trust repair efforts must be congruent and implemented across multiple system components (leadership; culture; structure, policies and processes etc.).</p> <p>The trust repair mechanisms that underpin the model are distrust regulation (e.g. imposing sanctions, regulations, and controls to stop the cause of the failure from happening again) and trustworthiness demonstration (e.g. demonstrating actions and behaviours that demonstrate benevolence, ability and integrity, such as showing transparency, apologising, paying penance and committing substantial resources to promoting trustworthy, ethical behaviour).</p> <p>Distrust regulation mechanisms are particularly pertinent after ability failures, whilst trustworthiness demonstration mechanisms are best utilized after benevolence and integrity failures.</p>

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Dirks et al. (2009)	A review of the trust repair literature and the provision of a more consolidated conceptualization for researchers to utilise in order to further advance theory	Review	Review	See Chapter 3 for a review.
Pfarrer et al. (2008)	To introduce a four-stage model of reintegration for organizations to use in order to restore legitimacy amongst various stakeholder groups.	Attribution Structural	<b>Organization</b> / Multiple to Organization	<p>The four stages of the model are as follows:          Discovering the transgression          Explaining wrongdoing          Serving penance by accepting punishment          Internally and externally rehabilitating or rebuilding the organization's processes and legitimacy.</p> <p>Discourse amongst stakeholders occurs regarding the appropriateness of the organization's response(s) at each stage of the model. Concurrence regarding the appropriateness of the organization's actions must be reached amongst stakeholders to allow it to move to the next stage of the model. If it is not, stakeholders may demand further actions or responses. Not all stakeholders have to be agreement; as long as a "dominant opinion" or "threshold agreement" is reached, concurrence can take place. It is possible for a small, salient group of stakeholders to reach concurrence</p> <p>Time and speed are important in each stage of the model. The longer time spent in any one stage of the process, the less likely the organization is to regain legitimacy with its stakeholders.</p> <p>The greater the consistency between an organization's internal and external rehabilitative actions, the greater the speed and likelihood that it will regain legitimacy.</p>

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## Appendix B

## Summary Table of Experimental Trust Repair Papers

Author (Year)	Paper Aims	Theoretical Underpinning	Level of Analysis / Referent	Component(s) of Trust Process Measured and Methodology	Findings
Haesevoets et al. (2015)	To consider the effectiveness of money as a means to repair trust after competence- versus integrity-based violations is explored in this study. Furthermore, whether overcompensation helped in this regard was also studied. More generally, can (more) money buy trust?	Attribution Social Equilibrium	<b>Individual</b> / Individual to Individual	<p><b>Study 1:</b> 141 US citizens were recruited via a crowdsourcing platform (Mechanical Turk) to complete a scenario study. A 2 (violation type: competence versus integrity) × 3 (compensation size: no compensation versus equal compensation versus overcompensation) between-subjects design was used and willingness to trust was measured.</p> <p><b>Study 2:</b> 137 undergraduate students from a Belgian university took part in an experiment designed to build on Study 1 and measure trusting behaviours.</p>	Results indicate that money can be used as an effective trust repair tool for competence- but not integrity- based violations. These results were shown for both willingness to trust and trusting behaviours. Overcompensation was not more effective than equal compensation in repairing trust.
Elangovan et al. (2015)	This paper examines the effects of damage incurred by the trustor as a result of a trust violation and the impact of	Attribution	<b>Individual</b> / Individual to Individual	Belief, Decision.	Results showed that trust eroded independent of the level of damage that may have been

<p>Haesevoets et al. (2013)</p>	<p>different levels of post-violation trust repair behaviours by the trustee on the subsequent erosion of trust</p> <p>Prior empirical research into relationship repair/preservation has tended to focus on either financial or relational strategies in repairing trust. This study examines the effects of both strategies simultaneously on relationship preservation.</p>	<p>Social Equilibrium</p>	<p><b>Individual</b> / Individual to Individual</p>	<p>Data were collected from 232 middle to senior level managers using a two-part scenario-based experimental design to test the impact of damage incurred (avoided) and post-violation repair behaviour. Respondents' levels of trust were measured pre- and post-violation as well as forgiving and a range of demographic variables.</p> <p>Decision, Action  <b>Study 1:</b> In this pilot study, 22 postgraduate students participated in a scenario study.  <b>Study 2:</b> 302 undergraduate students in a university in the Netherlands participated in a laboratory-based trust game.</p>	<p>caused. Post-violation trust repair behaviour by the trustee led to a significantly lower erosion of trust as compared to not engaging in such behaviours. Furthermore, erosion of trust was minimized when the trustee engaged in increasing levels of trust repair behaviour.</p> <p>Results showed that undercompensation was less effective in redressing harm suffered by the participant than equal or overcompensation, but overcompensation was not more likely to redress harm than equal compensation. Apologies coupled with undercompensation were more likely to lead to participants giving the transgressor another chance and participate in another round of the trust game than</p>
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Kim et al. (2013)	This study examines the differences that arise when an alleged transgressor attempts to repair trust with groups as opposed to individuals	Attribution	<b>Team</b> / Team to Individual	Belief, Decision 673 students participated in a video-based scenario.	<p>undercompensation without an apology.</p> <p>Repairing trust is generally more difficult with groups than individuals. Both individuals and groups trust less after denying low competence or apologizing for low integrity. The relative difficulty of trust repair with teams vs. individuals also depends on interaction. Ensuing group assessments affect initial individual assessments but not the reverse.</p>
Schniter et al. (2013)	A trust game study of how promises and messages can be used to build trust when none existed previously and to repair damaged trust.	Attribution	<b>Individual</b> / Individual to Individual	Decision, Action 458 students (229 pairs) from a university in the United States took part in a repeated trust game.	<p>In the first game 16.6% of trustees were distrusted and 18.8% of trusted trustees broke promises. Trustees distrusted in the first game used long messages and promises closer to equal splits to encourage trust in the second game. To restore damaged trust, promise-</p>

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<p>Dirks et al. (2011)</p>	<p>Four experiments were conducted to investigate the implications of ‘substantive’ responses for the repair of trust following a violation and the cognitive processes that govern how and when they are effective. The two forms of substantive responses investigated were penance and regulation</p>	<p>Attribution Structural</p>	<p><b>Individual</b> / Individual to Individual</p>	<p>Belief, Decision, Action <b>Study 1:</b> 106 undergraduate students from a university in Singapore participated in a trust game. <b>Study 2:</b> 143 participants from a university in the United States (85 undergraduate students and 58 graduate students) participated in a video-based scenario. <b>Study 3:</b> 102 undergraduate students from a university in Singapore participated in a trust game. <b>Study 4:</b> 121 undergraduate students from a university in Singapore participated in a video-based scenario.</p>	<p>breakers used apologies and upgraded promises. On average, investments in each game paid off for investors and trustees, suggesting that effective use of cheap signals fosters profitable trust-based exchange.</p> <p>The findings from Studies 1–3 suggest that both penance and regulation can be effective to the extent that they elicit the mediating cognition of perceived repentance. Data from Study 2 revealed that trustors saw signals of repentance as more informative when the transgression was due to a lapse of competence than due to a lapse of integrity. Study 4 compared these substantive responses to apologies (a non-substantive response) and revealed that, despite their surface-level differences, they</p>
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<p>Desmet et al. (2011)</p>	<p>A study into the allocation of financial compensation on the trust repair process, and whether or not the size of the compensation is relevant to this process.</p>	<p>Attribution</p>	<p><b>Individual/</b> Individual to Individual</p>	<p>Belief, Decision, Action</p>	<p><b>Experiment 1:</b> 132 students from a Dutch university were recruited to take part in a dictator game scenario.  <b>Experiment 2:</b> 213 students from a Dutch university participated in a laboratory experiment.  <b>Experiment 3:</b> 106 students from a Dutch university participated in a laboratory experiment.  <b>Experiment 4:</b> 98 students from a Dutch university participated in a decision-making game.</p>	<p>each repaired trust through ‘perceived repentance’ more so than an apology.</p> <p>Experiment 1 revealed that trust perceptions increased more by a slight overcompensation of the inflicted harm as compared to an exact or a partial compensation, but not if the transgressor’s bad intentions became clear through the use of deception in the violation. In Experiments 2 and 3, findings were replicated and further showed that it is not the use of deception per se, but rather the attribution of bad intent that moderates the effect of compensation size. Experiment 4, revealed that this effect not only occurs for small overcompensations, but also for larger overcompensations.</p>
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<p>Desmet et al. (2010)</p>	<p>A study on the impact of financial compensations on victims' trust towards the transgressor, whether the size of the compensation is relevant to this process.</p>	<p>Attribution Structural</p>	<p><b>Individual</b> / Individual to Individual</p>	<p>Belief, Decision, Action 146 university students participated in a repeated trust game.</p>	<p>The experiment showed that larger compensations only lead to more trust when the transgressor provided the compensation voluntarily, whereas compensation size had no effect when the transgressor was forced by a third party.</p>
<p>De Cremer (2010)</p>	<p>A study into the appropriateness of financial compensation vs. an apology in the context of a dictator game</p>	<p>Attribution</p>	<p><b>Individual</b> / Individual to Individual</p>	<p>Belief, Decision, Action 86 undergraduate students participated in a repeated trust game.</p>	<p>As hypothesised, when losses were allocated the violated party would be motivated to show more trusting behaviour towards the transgressor when a financial compensation (resulting again in equal final outcomes) relative to an apology was delivered. On the other hand, when gains were allocated, apologies would be more effective in promoting trusting behaviour than financial compensation.</p>
<p>Van Laer and de Ruyter (2010)</p>	<p>A study into how different content and format combinations may help</p>	<p>Attribution</p>	<p><b>Individual and Organization</b> / Individual</p>	<p>Belief, Decision Scenario</p>	<p>The results of Study 1 show that the combination of denial</p>

	companies restore trust after an integrity-based failure.		to Organization, Individual to Individual	<p><b>Study 1:</b> 153 students from a Dutch university participated in the first study.</p> <p><b>Study 2:</b> 145 students from a Dutch university participated in the second study.</p> <p><b>Study 3:</b> 95 students from a Dutch university participated in the third study.</p>	content and analytical format, as well as apologetic content and narrative format, works better than combinations of opposing response content and format. Comparing narrative apologies and denials in two consecutive studies demonstrate that the concept of “transportation”—the engrossing effect of a narrative—is the mechanism underlying narrative- based integrity restoration. Study 2 demonstrates how the use of empathy accounts for higher levels of transportation and perceived integrity. Study 3, establishes that a personal response by the involved employee is more effective than a response issued by a company spokesperson. Study 1 showed that an apology (relative to giving no apology) revealed higher fairness perceptions, but only so
De Cremer and Schouten (2008)	A study into the effectiveness of apologies in promoting fairness perceptions, concentrating specifically focusing on apology content	Social Equilibrium	<b>Individual/</b> Individual to Individual	<p>Belief</p> <p><b>Study 1:</b> 128 members of a multinational corporation based in the Netherlands completed survey questions to</p>	

	(how meaningful and sincere the apology is, and the perceived respect it holds)				related perceived respect shown towards them by their supervisor(s), whether or not their supervisor(s) were likely to apologise when something goes wrong or after they have acted in an unfair manner, and procedural fairness. <b>Study 2:</b> 119 Dutch undergraduate students participated in an experiment in order to provide generalisability to the results of study 1.	when the authority was respectful rather than disrespectful. In study 2, the same interaction effect on fairness perceptions was found.
Ferrin et al. (2007)	A study into reticence as a verbal response to trust violations.	Attribution	<b>Individual</b> / Individual to Individual		Belief, Decision  <b>Experiment 1:</b> 102 graduate students from a university in the USA participated in a video-based scenario. <b>Experiment 2:</b> 241 undergraduates from a university in Singapore participated in a video-based scenario.	The results of the studies supported the authors' hypothesis that reticence is a suboptimal response to an integrity violation because, like apology, it fails to address guilt. It is also a suboptimal response to a competence violation because, like denial, it fails to signal redemption.
Schweitzer et al. (2006)	An investigation into whether trust can be restored after a trust violation.	Attribution	<b>Individual</b> / Individual to Individual		Belief, Decision, Action  262 participants were recruited to take part in a repeated trust game that took place over a number of rounds. Trust was	Trust harmed by untrustworthy behaviour can be effectively restored when individuals observe a consistent series of

				measured using survey and behavioural measures.	trustworthy actions. Trust harmed by the same untrustworthy actions and deception (emphasis added), however, never fully recovers—even when deceived participants receive a promise, an apology, and observe a consistent series of trustworthy actions. A promise to change behaviour can significantly speed up the trust recovery process, but prior deception harms the effectiveness of a promise in accelerating trust recovery.
Kim et al. (2006)	A study that examines the trust repair implications of apologising with an external vs. internal attribution after a competence- vs. integrity-based trust violation.	Attribution	<b>Individual</b> / Individual to Individual	Belief, Decision 189 undergraduate students participated in a video-based scenario.	The results revealed a significant interaction whereby trust was repaired more successfully when mistrusted parties apologized with an internal, rather than external, attribution when the trust violation concerned matters of competence, but

<p>Nakayachi and Watabe (2005)</p>	<p>A study into the effects of voluntary “hostage posting” (the imposition of self-sanctions in uncertain situations) on trust repair.</p>	<p>Structural</p>	<p><b>Individual and Organization</b> / Individual to Individual, Individual to Organization</p>	<p>Belief, Decision, Action</p> <p><b>Experiment 1:</b> 198 undergraduate students from four universities in Japan participated in a vignette scenario experiment.</p> <p><b>Experiment 2:</b> 313 undergraduate students from two universities in Japan participates in a vignette scenario experiment.</p> <p><b>Experiment 3:</b> 44 Japanese undergraduate students participated in a trust game.</p>	<p>apologized with an external, rather than internal, attribution when the trust violation concerned matters of integrity.</p> <p>The results of the first two experiments demonstrate that voluntary hostage posting raised participants’ perceptions of the trustworthiness of organization that had caused incidents, whereas imposed or involuntary hostage posting did not result in positive evaluations. The third study revealed that voluntary posting affects not only the perception of trustworthiness but also respondents’ behaviour when their interests are at stake.</p>
<p>Kim et al. (2004)</p>	<p>A study into the effects of different responses (apology and denial) after either an integrity- or a competence-based trust violation</p>	<p>Attribution</p>	<p><b>Individual</b> / Individual to Individual</p>	<p>Belief, Decision</p> <p>Video-based Scenario experiment.</p>	<p>Results show that trust was repaired more successfully when parties (a) apologised for violations that</p>

<p>Bottom et al. (2002)</p>	<p>To test whether or not explanations and various types of substantive amends are able to restore cooperation after it is lost.</p>	<p>Social Equilibrium Affect</p>	<p><b>Individual</b> / Individual to Individual</p>	<p><b>Study 1:</b> 63 undergraduate students and 137 graduate students participated. <b>Pilot Study:</b> 71 separate undergraduate students participated. <b>Study 2:</b> 320 undergraduate students and 124 graduate students participated.</p> <p>Belief, Decision, Action</p> <p>Prisoner's Dilemma experiment. 225 students from the University of Washington, USA.</p>	<p>concerned matters of competence but denied culpability for matters of integrity, and (b) had apologized for violations when there was subsequent evidence of guilt but had denied culpability when there was subsequent evidence of innocence. Once breached, it may be possible to restore cooperation with the use of apology, explanation, and substantive actions. Early breaches of trust appeared to result in cognitive reactions, while later breaches had provoked cognitive and emotional reactions. Penance had a significant positive relationship with positive emotions.</p>
<p>Shapiro (1991)</p>	<p>A study into the effect of three types of mitigating explanations on the negative reactions of subjects who had been told they had been deceived.</p>	<p>Social Equilibrium</p>	<p><b>Individual</b> / Individual to Individual</p>	<p>Belief</p> <p>192 students from a university in the US participated in a scenario-based experiment.</p>	<p>In this study, explanations did not prove to be effective in remedying negative reactions to deception. The stated goodness of an explanation had little</p>

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effect on the capacity of explanations to reduce bad news, except when punitiveness was involved. However, punitiveness was only mitigated when subjects suffered penalties as part of the deceit.

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## Appendix C

Summary Table of Field Trust Repair Studies

<b>Author (Year)</b>	<b>Paper Aims</b>	<b>Theoretical Underpinning</b>	<b>Level of Analysis / Referent</b>	<b>Component(s) of Trust Process Measured and Methodology</b>	<b>Findings</b>
Stevens et al. (2015)	A study into the effectiveness of reorientation and recalibration in restoring trust and attempting to reach optimal interorganizational trust.	Structural Attribution Social Equilibrium	<b>Organization / Organization to Organization</b>	N/A (Case Study)  Dyadic, comparative case-based study of car manufacturers Nissan and Renault	The authors suggest that recalibration strategies (small, proactive balancing forces) can maintain trust close to an optimal level, and reorientation strategies (substantial efforts that attempt to change attributions of prior behaviour, re-establish social equilibrium, and bring about structural changes) when trust deviates strongly from an optimal level (i.e. either too much or too little trust).
Eberl et al. (2015)	A case study of an organization-level integrity failure and repair effort (Siemens), and the effect of	Structural	<b>Organization / Multiple to Organization</b>	N/A (Case Study)  Content analysis case study using a grounded theory approach.	The authors indicate that tightening organizational rules may be a good way to signal trustworthiness



	organizational rule changes on employees.				and repair the trust of external stakeholders, but can cause internal dissatisfaction. They suggest that both formal and informal rules need to be balanced to repair trust for both internal and external stakeholders.
Mueller et al. (2015)	This paper analyses the interplay between micro and macro levels in re-legitimation of the auditing industry in the UK (focusing on the “Big Four” accounting firms: Ernst & Young, PwC, KPMG and Deloitte).	Structural Attribution	<b>Institution</b> / Multiple to Institution	N/A (Case Study)  A case study analysis of the Lords Select Committee on Economics Affairs inquiry into “Auditors: Market Concentration and their Role”, 23 November 2010 (transcript).	Results suggest the necessity of trust transfer from non-partisan political and legal agents in re-legitimizing the Big Four’s privileged market position.
Spicer and Okhmatovskiy (2015)	A cross-sectional survey analysis of whether the state produces institutional-based trust in the Russian banking system after the financial crisis through its role as both an owner and a regulator of the system.	Structural	<b>Institution</b> / Individual to Institution	Belief, Decision, Action  The authors measured trust in top politicians, government, state ownership and state regulation as antecedents to behaviours related to saving (saving in a state-owned bank,	Results suggest that people differentiate between the state as an owner and as a regulator when deciding whether to decide to participate in the deposit market, and if so, how. For instance, higher trust in the state as an owner had a positive effect on

				savings in cash, and savings in private bank). 2,407 people in Russia responded to the survey.	the decision to keep saving in a state bank, and a negative effect on the decision to keep cash, thus withdrawing from the market. On the other hand, trust in the state as a regulator had a positive effect on the decision to keep savings in a private bank.
Petriglieri (2015)	A case study of the BP oil spill in 2010. The author explores whether it is possible to restore employee-organization relationships and organizational identification	Attribution Social Equilibrium Affect	<b>Organization</b> / Individual to Organization	N/A (Case Study)  36 senior leaders from BP participated in semi-structured interviews from which concepts, themes and dimensions were formed.	Results indicate that the resolution of ambivalence, constantly feeling both positive and negative feelings is important to employees feeling re-identified with their organization. To fully repair the relationship, co-creation activities involving both employee and organization are required. In the BP, if co-creation activities were absent, social information which either undermined or supported executives' identification with BP.

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Grover et al. (2014)	The authors explore how trust is violated and repaired in leader-follower relationships using a grounded theory approach.	Social equilibrium Attribution	<b>Individual</b> / Individual to Individual.	41 interviews were conducted with subordinates. Each had at least a one-year working relationship with their manager.	The authors suggest that both apologies and substantive action are required to repair trust in long-term relationships. It was noted that, in the interviews in which participants suggested that their trust was violated to such an extent that it could not be recovered, all instances were integrity violations. However, all violations types were recoverable if they were not too severe and some sort of recovery process was initiated. Repair processes need to come from the leader, but followers raise the issue as a call to action.
Gillespie et al. (2014)	A case study analysis of a water company's efforts to repair trust and restore legitimacy amongst stakeholders after an integrity-based transgression.	Structural Attribution	<b>Organization</b> / Multiple to Organization	N/A (Case Study) The authors conducted a case study analysis that included interviews with 6 senior members of	From the analysis of the case study, the authors posit that: A defensive approach, characterized by denials and

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<p>staff, 14 internal documents and 231 external reports from media outlets and press releases, as well as trade and regulatory reports.</p>	<p>obfuscation inhibits reintegration efforts.</p> <p>An open, cooperative approach to the discovery and explanation of wrongdoing facilitates reintegration.</p> <p>Serving penance and accepting punishment commensurate with the wrongdoing facilitates reintegration.</p> <p>Stakeholder salience is dynamic during the reintegration process and dismissing a “low status” stakeholder at one stage of the process may have negative effects later on.</p> <p>(Re-)establishing a positive organizational identity facilitates reintegration.</p> <p>After an integrity-based violation, reforms to the organizational culture are required to facilitate reintegration. Structural reforms alone are not enough.</p>
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Chen et al. (2013)	This paper investigates the impact of causal attribution (locus, stability and controllability attributes) and the coping strategies (affective, functional and informational initiatives) involved in trust repair on building positive moods in the context of e-commerce customers.	Attribution Affect	<b>Organization/</b> Individual to Organization	Belief, Decision  513 users of a Taiwanese e-shopping platform completed a questionnaire.	The authors find that salient trust repair strategies are effective in building positive moods amongst consumers, whereas causes of negative events have a negative impact on mood. Positive moods significantly influence the rebuilding of consumer trust.
Webber et al. (2012)	The authors aim to bridge the gap between dyadic laboratory tests and organization-wide trust repair literature by examining trust repair efforts of top management within an organization to a competency- and integrity-based transgression, specifically focusing on perceived organizational support and issue-selling	Attribution	<b>Organization /</b> Individual to Organization (TMT)	Belief  32 managers took part in interviews and completed a questionnaire.	Perceived organizational support (the extent to which an individual believes that his or her organization values employees' contributions and cares about their wellbeing) is positively related to trust in top management. Conversely, issue-selling (the process by which individuals affect others' attention to and understanding of the events, development, and trends that have implications for

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Lamin and Zaheer (2012)	To examine how firm responses to defend legitimacy play out amongst two distinct sets of stakeholders: “Wall Street” (investors) and “Main Street” (the general public).	Attribution	<b>Organization / Individual to Organization</b>	N/A (Case Study) Case study - The authors examined 21 American companies through media releases and tracked their stock market performance.	<p>organizational performance) success rate is negatively related to trust in top management above and beyond the impact of perceived organizational support.</p> <p>The authors found that Wall Street and Main Street occupied two different “thought worlds”; investors value profit, whilst the general public places importance on fairness to stakeholders. The two stakeholder groups do not evaluate firm responses to defend legitimacy similarly. Reactions that produce a negative reaction with the public have no effect on investors, whereas responses that are well-received by investors have no effect on the public. It is also suggested that once a firm’s legitimacy is challenged, its response</p>
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<p>Six and Skinner (2010)</p>	<p>Using evidence from two Dutch organizations, this study examines what happened at the critical moments when trouble occurred in a work relationship and explore what determined the impact of that event on the level of trust in the relationship.</p>	<p>Attribution</p>	<p><b>Individual</b> / Individual to Individual</p>	<p>N/A (Case Study)</p> <p>Three case studies of “trust and trouble” between three dyadic pairs in two Dutch organizations were collated via in-depth interviews.</p>	<p>can make the situation worse in the eyes of the public, but there is not much it can do to turn negative perceptions around.</p> <p>The findings of this study suggest that when trouble occurs in a dyadic relationship in the workplace, it is important that the expectations of both parties are explicit and clear. The use of constructive voice (where intention is clear and a rich, open form of communication between the participants takes place) and engagement in positive interaction is important.</p>
<p>Elsbach (1994)</p>	<p>A study into the effectiveness of verbal accounts to controversies in the California cattle industry.</p>	<p>Attribution</p>	<p><b>Organization</b> / Individual to Organization</p>	<p>Belief</p> <p><b>Study 1:</b> The author chose eight controversial events after reviewing five major local newspapers. 15</p>	<p>The results of these studies suggest that accounts are constructed by linking two broad forms of accounts (acknowledgments or denials) with two broad</p>

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<p>informants from the California cattle industry were interviewed for the study.</p>	<p>types of account contents (references to institutionalized or technical organizational characteristics) and that accounts that combine acknowledging forms of accounts with references to widely institutionalized characteristics are the most effective in protecting organizational legitimacy. The construction of accounts is explained by spokespersons' attempts to provide logical, believable, and adequate explanations. The effectiveness of accounts is explained by audiences' perceptions of the type and severity of controversial actions, their knowledge of the area of controversy, and their expectations of organizational responses. Non-expert audiences expect organizations to</p>
<p><b>Study 2:</b> 15 informants from stakeholder groups that were likely to be the targets of the verbal accounts were interviewed for the second study.</p>	
<p><b>Study 3:</b> 63 executives from the electronics industry taking part in an executive training program participated in a vignette study based on the cattle industry data gathered in study 1.</p>	

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<p>Sitkin and Roth (1993)</p>	<p>An investigation into the use of legalistic remedies as an organizational response to HIV/aids in terms of avoiding legal sanctions and litigation, protecting organizational legitimacy, and protecting employees' organizational rights.</p>	<p>Structural</p>	<p><b>Organization / Individual to Organization</b></p>	<p>N/A (Case Study)</p> <p>Interviews with HIV/aids sufferers in a variety of workplace settings.</p>	<p>acknowledge the events and provide evidence that actions related to the controversy were performed in accordance with endorsed and normative practices.</p> <p>Legalistic remedies may serve to help organizations avoid legal sanctions, but they are not efficient in protecting legitimacy or protecting employees' rights</p>
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## Appendix D

## Study 1 Measures

## Implicit Affect Measure (Johnson et al., 2010)

*Items From the Word Fragment Completion Measure of Trait Affectivity*

Word Fragment	PA	NA	Other
FE__	–	FEAR	FEEL, FEED
PRO___	PROUD	–	PROWL, PRONE
_UILT	–	GUILT	BUILT, QUILT
__AD	GLAD	–	READ, DEAL
___TILE	–	HOSTILE	REPTILE
_ER_Y	MERRY	–	BERRY, FERRY
_AR_D	–	SCARED	STARED, FLARED
SM___	SMILE	–	SMOKE, SMART
___OUS	–	NERVOUS	TEDIOUS
EX___	EXCITE	–	EXTEND, EXPAND
__NSE	–	TENSE	SENSE, DENSE
_OY	JOY	–	SOY, BOY
__SET	–	UPSET	ASSET, RESET
__EE	GLEE	–	FREE, TREE
DIS_____	–	DISTRESS	DISPENSE
__PPY	HAPPY	–	HIPPY, SAPPY
AF___D	–	AFRAID	AFFORD
CH__R	CHEER	–	CHAIR, CHOIR
_RO_N	–	FROWN	CROWN, BROWN
__LLY	JOLLY	–	JELLY, BELLY

Source: Johnson et al (2010)

## PANAS (Watson et al., 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way right now, that is, at the present moment (for trait measure: “indicate to what extent you feel this way in general”).

1 – Very slightly or not at all to 5 – Extremely

- |               |               |            |            |
|---------------|---------------|------------|------------|
| 1. Interested | 2. Distressed | 3. Excited | 4. Upset   |
| 5. Strong     | 6. Guilty     | 7. Scared  | 8. Hostile |

9. Enthusiastic	10. Proud	11. Irritable	12. Alert
13. Ashamed	14. Inspired	15. Nervous	16.
Determined			
17. Attentive	18. Jittery	19. Active	20.
Afraid.			

**Emotional and Interpersonal Sensitivity Measure (Bloise & Johnson, 2007)**

1 – Not at all like me to 5 – Exactly like me.

1. At parties, I can immediately tell if someone is interested in me.
2. I'm generally concerned about the impression I'm making to others.
3. I can always feel when there is tension in the room.
4. I can easily tell what a person's character is by watching his or her interactions with other people in the room.
5. I sometimes cry at sad films.
6. I always seem to know what people's true feelings are no matter how they try to conceal them.
7. I can always tell when someone is upset.
8. There are certain situations in which I find myself worrying about whether I am saying or doing the right things.
9. If someone is angry with me it makes me very uncomfortable.
10. I always want to know why someone is upset or in a bad mood.
11. I am generally influenced by the moods of those around me.
12. I can be strongly affected by someone smiling or frowning at me.

**General Regulatory Focus Measure (Lockwood et al., 2002)**

1 – Not at all true of me 2 3 4 5 6 7 8 9 – Very true of me.

1. In general, I am focused on preventing negative events in my life.
2. I am anxious that I will fall short of my responsibilities and obligations.
3. I frequently imagine how I will achieve my hopes and aspirations.
4. I often think about the person I am afraid I might become in the future.

5. I often think about the person I would ideally like to become in the future.
6. I typically focus on the success I hope to achieve in the future.
7. I often worry that I will fail to accomplish my goals.
8. I often think about how I will achieve success.
9. I often imagine myself experiencing bad things that I fear might happen to me.
10. I frequently think about how I can prevent failures in my life.
11. I am more oriented toward preventing losses than I am toward achieving gains.
12. I see myself as someone who is primarily responsible striving to reach my “ideal self” – to fulfil my hopes, wishes and aspirations.
13. I see myself as someone who is primarily striving to become the self I “ought” to be – to fulfil my duties, responsibilities and obligations.
14. In general, I am focused on achieving positive outcomes in my life.
15. I often imagine myself experiencing good things that I hope will happen to me.
16. Overall, I am more orientated towards achieving success than preventing failure.

**Short Form of Interpersonal Trust Scale – Trust Propensity (Chun & Campbell, 1974)**

1- Strongly Disagree to 5 Strongly Agree.

1. Hypocrisy is on the increase in our society. (r)
2. In dealing with strangers one is better off to be cautious until they have provided evidence that they can be trustworthy. (r)
3. This country has a dark future unless we can attract better people into politics. (R)
4. Parents can usually be relied upon to keep their promises.
5. The judiciary is a place we can all get unbiased treatment.
6. It is safe to believe that in spite of what people say, most people are primarily interested in their own welfare. (R)
7. Even though we have reports on the internet, radio, television and in the newspapers, it is hard to get objective accounts of public events (adapted from original item: “Even though we have reports in newspapers, radio and television, it is hard to get objective accounts of public events”). (r)

8. In these competitive times you have to be alert or someone will take advantage of you. (r)
9. Many major national sports contests are fixed in one way or another. (r)
10. Most salesmen are honest in describing their products.
11. Most repairmen will not overcharge even if they think you are ignorant of their speciality.
12. If we really knew what was going on in international politics, the public would have more reason to be frightened than they now seem to be. (r)

**Organisational Trustworthiness Beliefs (Adapted from McKnight et al., 2002)**

1 – Strongly Disagree to 5 Strongly Agree.

1. I believe that National Express would act in my best interest.
2. National Express is interested in my well-being, not just its own.
3. National Express is truthful in its dealings with stakeholders (adapted from original “truthful in its dealings with me).
4. National Express would keep its commitments.
5. I would characterise National Express as honest.
6. National Express is sincere and genuine.
7. National Express is a competent and effective coach provider.
8. National Express performs its role as a coach provider very well.

**Willingness to Trust**

1 – Not at all Willing to 5 – Extremely Willing.

How willing are you...

1. To rely on National Express to get you to your destination on time.
2. To rely on National Express to get you to your destination safely.
3. To use National Express as a coach provider.
4. To use National Express to take a long-distance journey.

## Appendix E

**Study 2 Measures****Trust Repair Response Score (Adapted from Coombs & Holladay, 2002)**

1 – Strongly Disagree to 5 – Strongly Agree.

To what extent do you agree or disagree with the following?

1. The CEO represented his organisation well.
2. The CEO is basically dishonest. (r)
3. The CEO's response was sincere.
4. The CEO is a good leader.
5. The CEO's response was appropriate.
6. The CEO communicated well.
7. The CEO's response was reassuring.
8. I like the CEO.
9. The CEO's response made me feel worse about the crash. (r)
10. The CEO only cares about making profits for shareholders. (r)
11. The CEO is concerned about avoiding similar accidents in the future.

**Differential Emotion Scale (Izard, 1971)**

1 – Not at all to 5 – Extremely.

- |                |                  |              |            |
|----------------|------------------|--------------|------------|
| 1. Downhearted | 2. Discouraged   | 3 Sad        | (Sadness)  |
| 4. Relaxed     | 5. Optimistic    | 6. At Ease   | (Calmness) |
| 7. Enraged     | 8. Angry         | 9. Mad       | (Anger)    |
| 10. Scared     | 11. Fearful      | 12. Afraid   | (Fear)     |
| 13. Delighted  | 14. Happy        | 15. Joyful   | (Joy)      |
| 16. Disdainful | 17. Contemptuous | 18. Scornful | (Contempt) |

**Affect Intensity Measure (Larsen & Diener, 1987)**

1 – Never to 6 – Always.

1. I feel pretty bad when I tell a lie.
2. My emotions tend to be more intense than those of most people.
3. Sad movies deeply touch me.
4. When I talk in front of a group for the first time my voice gets shaky and my heart races.
5. My friends might say I'm emotional.
6. The sight of someone who is hurt badly affects me strongly.
7. "Calm and cool" could easily describe me. (r)
8. Seeing a picture of some violent car accident in a newspaper makes me feel sick to my stomach.
9. When I do something wrong I have strong feelings of guilt and shame.
10. I can remain calm even on the most trying days. (r)
11. When I get angry it's easy for me to still be rational and not overreact. (r)
12. When I do feel anxiety it is normally very strong.
13. My negative moods are mild in intensity. (r)
14. My friends would probably say I'm an intense or 'high-strung' person.
15. When I feel guilty, this emotion is quite strong.
16. When I am nervous I get shaky all over.

**Private Body Consciousness (Miller et al., 1981)**

1 – Extremely Uncharacteristic to 6 – Extremely Characteristic.

1. I am sensitive to internal bodily tensions.
2. I know immediately when my mouth or throat goes dry.
3. I can often feel my heart beating.
4. I am quick to sense the hunger contractions of my stomach.
5. I'm very aware of changes in my body temperature.

Appendix F

**Study 3 Measures**

**Ecologically Conscious Consumer Behavior (Roberts, 1996)**

1 – Never True to 5 – Always True.

1. When there is a choice, I always choose the product that contributes to the least amount of environmental damage.

2. I have switched products for environmental reasons

3. If I understand the potential damage to the environment that some products can cause, I do not purchase those products.

4. I do not buy household products that harm the environment.

5. Whenever possible, I buy products packaged in reusable or recyclable containers.

6. I make every effort to buy paper products (toilet paper, tissues, etc.) made from recycled paper.

7. I will not buy a product if I know that the company that sells it is environmentally irresponsible.

8. I have paid more for environmentally friendly products when there is a cheaper alternative.

**Purchase Decision Factors**

1 – Not at all Important to 5 – Extremely Important.

1. Running Costs (Fuel economy, tax, insurance etc.).

2. Design (e.g. Shape, colour, model etc.).

3. Price.

4. Performance (e.g. Engine size, power, top speed etc.).

5. Practicality (e.g. Number of seats, number of doors, trunk space etc.).

6. Environmental Considerations (e.g. CO2 emissions).

7. Reliability.

8. Engineering.



**Personal Control (Coombs & Holladay, 2004)**

1 – Strongly Disagree to 9 – Strongly Agree.

1. The cause of the scandal was something that Volkswagen could control.
2. The cause of the scandal is something over which Volkswagen had no power (r).
3. The cause of the scandal is something that was manageable by Volkswagen.
4. The cause of the scandal is something over which Volkswagen had power.

**Organizational Trustworthiness Beliefs**

1 – Strongly Disagree to 5 – Strongly Agree.

1. I believe that Volkswagen would act in my best interest.
2. Volkswagen is interested in my well-being, not just its own.
3. Volkswagen is truthful in its dealings with stakeholders.
4. Volkswagen would keep its commitments.
5. I would characterise Volkswagen as honest.
6. Volkswagen is sincere and genuine.
7. Volkswagen is a competent and effective car manufacturer.
8. Volkswagen performs its role as a car manufacturer very well.

**Willingness to Trust**

1 – Not at all Willing to 5 – Extremely Willing.

1. To rely on Volkswagen to fix any issues with a vehicle in a manner that would not cost you financially?
2. To buy a Volkswagen model next time you are in the market for a new car?
3. To recommend a Volkswagen vehicle to a family member, friend, colleague or associate?
4. To collaborate with Volkswagen to provide favourable testimony for the company in relation to PR, advertising or marketing activities?
5. To rely on Volkswagen to fix any issues with a vehicle in a manner that would not be detrimental to its performance?

6. To rely on Volkswagen to fix any issues with a vehicle in a timely manner?
7. To rely solely on Volkswagen's assertion that any fix applied to a vehicle affected by the Emissions Scandal is appropriate without the need for confirmation from an external party (such as a regulator or government agency)?
8. To participate in a class action lawsuit against Volkswagen? (r)

### **Distrusting Acts**

1 – No to 2 Yes.

1. Altered your plans related to selling or trading in your vehicle?
2. Made a complaint to Volkswagen?
3. Made a complaint about Volkswagen (e.g. via word of mouth, on social media, via an internet forum etc.)?
4. Altered your plans relating to attending a Volkswagen-sponsored or -themed event (e.g. decided not to attend an event that you originally planned to attend)?
5. Made a conscious decision to use your vehicle less than you usually would?
6. Actively discouraged a family member, friend, colleague or associate in the market for a new car from purchasing a Volkswagen vehicle?

Appendix G

**Transcript of Trust Repair Manipulation Video Used in Studies 1 and 2**

JS: “Richard Bowker, what does the company think happened?”

RB: “Well the first thing I think we must say is that our condolences do go to the families that have lost loved ones today, and to those who are still very poorly in hospital. That’s been our top priority today, as it has been the emergency service, that’s the focus. As to what happened, we are cooperating with the police, we’re working with everybody to find out what did happen, ‘cos it’s important we find out.”

JS: “Just to go through a couple of priorities, I mean, contract drivers... how much do you really know about them?”

RB: “We know a great deal. The way National Express operates, quite a lot of our coaches are provided to us by firms. They’re all very reputable firms; their drivers have to have the very same high, exacting standards and licences that our own do. They’re tested, they’re checked, so we require of our contractors the same standards we require of ourselves.”

JS: “How many hours are they allowed to drive and would there have been pressure on him to deliver the vehicle to wherever his changeover occurred by a certain time?”

RB: “There are restrictions on the number of hours they can drive. It depends, but there are quite tight limits. They’re prescribed, and every vehicle is fitted with what is called a tachograph which is an electronic system which checks the number of hours they drive...”

JS: “Are you pushing him to keep to time?”

RB: “No...”

JS: “... I mean, if he had a baggage delay at Heathrow would he have felt a tremendous pressure to get moving?”

RB: “No driver should drive in a manner that is inconsistent with safe driving, and that is part of our ethos and is no different for this coach and for any other.”

JS: “Now we do know that he did ask everybody to wear their seatbelts, but people presumably don’t have to wear them?”

RB: “Well they’re required by law to. What we do, as you said right at the beginning of the programme, we either have to tell them, or display a sign prominently, or put a safety card in place. We do all three, and we believe that’s what was happening here. There was an announcement, but it is down to then the passenger to wear their seatbelt.”

JS: “Can you tell whether everyone did have seatbelts on, and indeed, what about kids? Should they not be compelled to have seatbelts on?”

RB: “Well we can’t tell at this stage who did and who didn’t, and that is again something that perhaps could be looked at in the investigation. Children under 14 do not have to wear seatbelts under the current legislation, and we’re going to look at that, and again we’ve already started that process.”

JS: “It’s a surprise, I think, to some people, that a high-sided bus like this makes that huge journey to Scotland. That’s standard, is it?”

RB: “These vehicles are designed to be stable. They are stable vehicles, they’ve been round for a long time. There’s a lot of engineering gone in to do that, and they do do these long journeys, and they’re designed to be able to do that. What we have done today, though, and I say this as a precautionary, not a presumption of anything, we have taken all of the vehicles today, the twelve double-deckers that we have, out of service. With the manufacturer’s team of engineers, we are checking them, that is because safety is top priority for us and we’re just going to make absolutely sure. But that’s a precaution, not a presumption of anything.”

JS: “One last question. We wouldn’t lead on a story like this were it not so extraordinarily unusual?”

RB: “It is extraordinarily unusual, we have had no incident like this in National Express, ever, and as you said, coach travel is the safest form of travel on the roads. It’s amongst the safest forms of travel at all, but what we will do with this; we’ve got to find out what happened so we can take appropriate action.”

JS: “Richard Bowker, thank you very much indeed for coming in.”

JS = Jon Snow, Channel 4 News anchor.

RB = Richard Bowker, National Express CEO

## Appendix H

### **Transcript of Study 3 Trust Repair Manipulation Video 1**

“I’d like to talk about how we get from where we are now, to that goal. First, we are conducting investigations on a worldwide scale as to how these matters could have happened. Responsible parties will be identified and held accountable. Thorough investigations have already begun, but any information development at this stage is preliminary. We ask for your understanding as we complete this work.

Second, it’s important for the public to know, that, as the EPA has said, these vehicles do not present a safety hazard and remain safe and legal to drive.

Third, technical teams are working tirelessly to develop remedies for each of the affected group of vehicles. These solutions will be tested and validated, and then shared with the responsible authorities for approval. The three groups of vehicles involved, each containing one of the three generations of the two litre diesel engines. Each will require a different remedy, but these remedies can only be our first step to our customers.

Fourth, we will examine our compliance processes and standards at Volkswagen, and conduct measures to make sure something like this cannot happen again.

Fifth, we commit to regular and open communication with our customers, dealers, employees, and the public as we move forward. And as first steps we have set up a designated service line, website, microsite, to be a channel for this communication, and I have sent a personal letter to every affected customer.

I can offer today this outline of a path forward towards the goal of making things right. Nevertheless, Volkswagen knows that we will be judged not by our words, but clearly by our actions over the coming weeks and months. These events are fundamentally contrary to Volkswagen’s core principles of proving value to our customers, innovation and responsibility to our communities, and to our environment. They do not reflect the company that I know, and to which I have dedicated 25 years of my life. It’s inconsistent that this company involved in this emissions issue is also a company that had invested in environmental efforts to reduce the carbon footprint in our factories around the world, where our plant in Tennessee is the best factory in this respect.

In closing, again, I apologise on behalf of everyone at Volkswagen. We will fully cooperate with the responsible authorities. We will find remedies for our customers, and we will work to ensure that this will never happen again. Thank you again for allowing me to testify today, and I look forward to your questions. Thank you.”

Appendix I

**Transcript of Study 3 Trust Repair Manipulation Video 2**

“Coming towards October, now, we provided every dealer around the US with a discretionary fund. With a discretionary fund which was explained to them through the district managers, sales operations managers, and which was wired to the dealers on October 1<sup>st</sup>. I don’t want to call out the number, but, erm, it’s a significant amount of money in order for them to have flexibility. So no accountability towards us, flexibility to solve the most urgent customer cases, or to invest, or to put the money where they think it would be fit. And now, you know, when I come out of this congressional hearing, on Friday we look at the next programmes in order how can we help the dealers with the cash flow of their cars, of their cash position, because one thing is very, very clear, and I’m damn sincere about this, the dealer profitability in this county is my first objective. I said this on January 1<sup>st</sup> and I continue to say this. So this is one part. Also on Friday we look very intensively to the customer remedies, and what we need to do for the customers. And there will be the first scenarios on the table.”