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Emotions in the courtroom: How do empathy, sympathy,
and personal distress influence juror judgement?

Linda Weber

Central Queensland University

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Department of Psychology and Sociology

Faculty of Sciences, Engineering and Health

Central Queensland University

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Declaration

This dissertation, which is being submitted as a requirement of the Doctor of Philosophy degree, is entirely my own work and contains no material previously submitted for the purpose of assessment at any university. To the best of my knowledge, this thesis contains no material previously published or written by another author, except where due reference is made in the text.

Signature Redacted

Linda Leigh Weber

1 June, 2007

Dedicated to my Dad

Your pride and belief in me kept me going and even though I lost you on the way, I felt you with me every day. You meant the world to me, so this one's for you. Thanks Dad.

Abstract

This research examined the psychosocial-cognitive variables involved in decision making in the context of a murder trial. Schema Theory and the Elaboration Likelihood Model provided the theoretical bases from which three studies were conducted to investigate the influence of justice and vengeance motives, emotions, and factual and emotive information, upon juror judgement. Study 1 of this research involved the development of the ESPI Scale to measure the differing levels of affect and cognition hypothesised to underpin each of the emotion constructs (i.e., empathy, sympathy, personal distress, and indifference). Study 2 subjected the data from 203 respondents to exploratory factor analysis. The data from a further 202 respondents was utilised in confirmatory factor analysis which was conducted via structural equation modelling (SEM). In Study 3, data from 498 respondents were utilised to test the adequacy of two structural path models: the Schema model and an alternative model labelled Posner's model. The direct and indirect relationships between the variables of these two models were assessed utilising SEM. The Schema model tested the hypothesis that justice and vengeance motives should be directly and indirectly associated with the judgement rendered through (1) the four emotions, and (2) emotive and factual information. Posner's model also predicted that justice and vengeance motives should have direct and indirect associations with the judgement rendered through (1) emotive and factual information, and (2) the four emotions. In addition to investigating the appropriate sequential ordering of the variables involved in decision making, this research assessed the impact of the presentation of black and white photographs and colour

photographs on the two decision-making processes. The results indicated that while both structural models were adequate in representing the decision-making process, Posner's model was a better representation for the colour photographs, while decision-making via the Schema model was similar for both photographs modes. The implications of the study's findings for theory and research, and for the legal process are discussed.

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CHAPTER 1

Introduction

1.1 Overview of the Judicial Process

Prior to the commencement of a criminal trial in an Australian Court of Law, each juror either swears an oath while holding the bible in one hand, or can elect to swear a non-religious affirmation (Queensland Law Society, n.d.). Both the traditional oath and the affirmation, in part state "I will conscientiously try the charges against the defendant and decide them according to the evidence" (Queensland Government, 2003, p. 3). To decide a case solely based on the evidence naively assumes that all jurors perceive and process information in an identical manner, while remaining impervious to the emotive aspects of the case.

Anecdotal reports from the media suggest that while some jurors are able to remain emotionally detached, others are deeply affected by arousing testimony. These are not isolated instances, as accounts of jurors having fainted in reaction to the presentation of especially shocking evidence have been reported from courts in England (The Guardian, 1986), America (Stingl, 1996), and Australia (McGuirk, 1996). Indeed, there appears to be substance to these reports as Sallmann and Willis (1984) claim that the judicial system fears such intense emotional reactions increase the potential for jurors to "fail to act rationally and according to the evidence" (p. 105). There is some acknowledgement by the Queensland Legal System of the potential for some jurors to be greatly affected by what they see and hear

during the trial process. As such, a Juror Support Program is available to jurors at the conclusion of a criminal trial which provides either a Medical Practitioner or Psychologist for those who require emotional support (Queensland Courts, 2007).

Given the emotive content of criminal and civil court proceedings, it is somewhat surprising that much of the research investigating the influence of emotions on juror decision-making has concentrated on the role of defendant characteristics such as the likeableness (Bridgeman & Marlow, 1979), or remorse (Robinson, Smith-Lovin, & Tsoudis, 1994) of the defendant. These factors rely on an ability to relate to the perpetrator rather than the victim. It is also likely that jurors could be impacted by emotions that have been evoked in response to the plight of a victim.

One study involving the assessment of affective arousal provoked by the victim was undertaken by the Capital Jury Project. This research examined how jurors arrived at the decision of rendering a death sentence. The method involved interviewing actual jurors who had deliberated on various murder trials (Sundby, 2003). Findings from the Capital Jury Project indicated that jurors had allowed their emotions evoked by the victim's suffering to enter into their decision-making processes. A number of jurors admitted to feeling sympathetic toward the victim but believed they had maintained adherence to legal procedures. Conversely, others acknowledged they were unable to remain impartial and that their emotions had influenced the sentence rendered. The question arises as to why some jurors are able to be objective while others are not, and how this affects decision-making.

The underlying structures used in legal decision-making comprise a number of assumed cognitive and individual difference factors. Several of these constructs will be reviewed and their relevance to this project illuminated.

1.2 Punishment Philosophy

Goodman-Delahunty, ForsterLee, and ForsterLee (2005) have suggested that the harshness or lenience of a sentence is determined by an individual's punishment philosophy. The philosophical position of an individual is formed from his or her experience and understanding of what is a “just” outcome for a given behaviour (Wrightsmann, Greene, Nietzel, & Fortune, 2002). An individual's definition of punishment will roughly conform to one or more of Carroll, Perkowitz, Lurigio, and Weaver's (1987) contentions that punishment should incapacitate, deter, rehabilitate, restore balance, or mete out retribution to the offender.

Sending offenders to jail serves the goal of reassuring society that they can feel safe while the offender is confined or incapacitated (Wrightsmann et al., 2002). In addition to removing the offender from the community, it is assumed that incapacitation acts as a deterrent to *potential* offenders. While in jail, offenders are encouraged to recognise the error of their ways and be rehabilitated. Rehabilitation is usually demonstrated by the offender undertaking skills building, revising their values, and developing the skills to engage in, and maintain a lifestyle that will be of value to society upon their release. Sallmann and Willis (1984) contend that a punishment which is considered proportional to the gravity of the crime restores the balance that the crime has disrupted. However, when the punishment is more severe than the crime committed because it is thought that the offender deserves to

be dealt with harshly, the punishment is no longer fair, but retributive. Of these five punishment goals, restoration and retribution are of particular interest in relation to legal decision-making, as each corresponds respectively to the themes of justice and vengeance.

1.3 *Justice and Vengeance*

Justice and vengeance motives both ascribe to the theory that offenders should be punished for their crimes against society (Sallmann & Willis, 1984), however, this is where their similarities end. For example, the ethos of justice being blind connotes a focus solely on what society has deemed an appropriate response to the criminal act. As such, perceptions of justice can be understood by the theory of equity, which endorses the fair distribution of rewards and costs in society. This assumes that the well behaved will be rewarded but those who are bad will be punished. Those advocating this perspective believe that individuals who transgress *deserve* to be punished (Wasserstrom, 1978).

Punishment as the result of justice based on equity is fair, fits the severity of the crime, and redresses the inequity created by the crime. It includes the way an outcome is decided, and allows the opportunity for all those involved to state their opinions. This type of justice promotes adherence to legal proceedings and accords dignity and respect to all persons involved in the process (Wrightsman et al., 2002). To ensure this process is fair, the mitigating and aggravating circumstances of a case are presented for deliberation to aid decision-making. Mitigating circumstances are those facts that can lessen the culpability of the offender, while aggravating circumstances magnify the severity of the offence (Goodman-Delahunty et al., 2005). Ho, ForsterLee, ForsterLee, and Crofts (2002)

maintain that consideration of these circumstances ensures that both the legal process and the sentence will be fair and just. Peterson's (2001) suggestion that justice motivated sentencing is not spontaneous but involves thoughtful consideration of all the facts, aligns with the view of justice advocated by Ho et al. (2002). Peterson adds that justice requires a level of "cool-headedness" and is the response of a mature individual. In addition, Ho et al. contend that justice is rational, and does not appear to be susceptible to emotional influence.

Conversely, vengeance is a personalised motive where revenge is taken as retaliation for an action. In this instance, Ho et al. (2002) consider that punishment is motivated by emotion. Accordingly, reports by Costanzo and Peterson (1994) and Nygaard (1994) indicate that the legal profession is well aware that emotion-eliciting crimes such as murder evoke an innate desire for vengeance. This revenge-seeking bias results in a tendency for jurors to sentence harshly. Ho et al. have maintained that vengeance is not about restoring equity, but is an intense over-reaction as retribution for arousing disturbing feelings in the avenger such as anger.

Wasserstrom (1978) agrees that vengeance is retributive in nature promoting the belief that an offender deserves to be punished for the suffering and harm inflicted on a victim. The retributive theory of punishment consists of three components: responsibility, proportionality, and just requital (or retaliation). Responsibility encompasses the belief that the wrongdoer must only be punished for an offence if it was intentional and voluntarily committed. Proportionality refers to the matching of the punishment to the gravity of the offence. The third component of just requital corresponds to the belief that the justification for punishment is morally correct, because the

suffering intentionally caused by the offender sanctions a moral right to reciprocate such suffering.

Ho et al. (2002) and Peterson (2001) claim that the desire to reciprocate suffering is the result of vengeance focusing the mind. Rather than encouraging the observance of legal principles, this vengeance focus leads to a simplistic solution aimed at alleviating personal feelings of discomfort. Moreover, Sallmann and Willis (1984) argue that when a vengeance bias is present, the punishment is not proportional to the crime. The incited feelings lead to a harsher penalty being imposed that exceeds the severity of the crime as determined by law. They suggest that the harsh penalty is supposed to communicate to the offender that the punishment is deserved, and that would-be offenders will be treated in kind.

Wasserstrom (1978) highlights capital punishment as the harshest sentence possible, and this punishment is still imposed in numerous countries. In Australia, the death penalty as a sentencing option was phased out after Ronald Ryan was found guilty of, and executed for murder by hanging in 1967 (Read, 1986). Nevertheless, the death penalty option has continued to be presented to the Australian public as a hypothetical sentencing option in surveys (e.g., Walker, Collins, & Wilson, 1987), and in juror decision-making research (e.g., ForsterLee, Horowitz, ForsterLee, King, & Ronlund, 1999). The rationale for examining this sentencing option is that it provides a measure of the level of punishment that mock jurors believe is a “just” penalty if presented with the option. Although Australian jurors do not determine sentences, giving survey respondents and research participants the choice to sentence a defendant to death, provides valuable evidence of individual differences in the punishment motives of justice and vengeance.

A survey conducted on the sentencing preferences of the Australian public demonstrates such differences in punitiveness (Walker et al., 1987). For a murder involving stabbing the victim to death, it was found that only a minority of the Australian public (one in four) were amenable to the death penalty as an appropriate punishment. While Walker et al. did not speculate on why some individuals were death penalty oriented and others were not, it is suggested that the findings reflect personally held views of the goals of punishment as either justice or vengeance.

In addition to the underlying motives of justice and vengeance, the information processing strategies inherent in the two motives also differ. Ho, ForsterLee, and ForsterLee (2003) have suggested that justice and vengeance beliefs reflect two different styles of information processing which can account for differences in juror judgements consisting of sentencing, verdict, and volition. In particular, punishment meted out by individuals with a justice orientation is fair and ensures that legal principles are adhered to, whereas punishment that is vengeance motivated is imposed as an act of revenge against the wrong-doer. A judgement arrived at via the justice motive, therefore, follows legal guidelines and structure, in contrast to a revenge based judgement that is unfair and unduly harsh. Ho et al. found that these differences could be explained by the information processing strategies embodied in the decision-making model developed by Chaiken (1980), known as the heuristic-systematic model of persuasion (HSM).

1.4 Information Processing

The HSM was developed to assess “validity seeking persuasion settings in which people’s primary motivational concern is to attain accurate attitudes that square with the relevant facts” (Eagly & Chaiken, 1993, p. 326).

In persuasion settings, validity-seeking is attained via heuristic and systematic information processing (Chaiken, Liberman, & Eagly, 1989). Fiske (2004) contends that these routes to persuasion are cognitive in nature, and that individuals use both routes to process messages. Given the wide applicability and utility of the heuristic route, this mode is engaged most of the time. Conversely, the taxing nature of systematic processing dominates when individuals are highly motivated to be accurate and confident. When individuals process information in a systematic manner, they tend to accept and/or resist persuasive arguments based on the quality and validity of the message content. Systematic strategists generally change opinions on an issue only after critical evaluation of message content, and treat non-content cues (such as the source's identity) as secondary considerations.

Chaiken et al. (1989) contend that persuasion heuristics are cognitive structures in memory that rely on simple decision rules such as: (1) placing trust in experts' communications; (2) source likeability; (3) the majority must be correct; or (4) the length of the message implies that the message is strong. Those who employ heuristic strategies typically rely on non-content cues in deciding the validity of a message or argument. Individuals who process information heuristically, tend to question or comprehend information in a minimal manner, and are easily persuaded by superficial considerations.

To be influenced by a heuristic cue, Eagly and Chaiken (1993) maintain that the heuristic must be *available* in memory to be used. The heuristic must also be *accessible* from memory in order to respond to appropriate cues available in the specific situation. Finally, the heuristic must be *reliably* associated with its relevant cues. Eagly and Chaiken (1993) claim that

heuristic and systematic processing can co-occur, however, the effects of the heuristic cue can be minimised by systematic processing that contradicts the validity of the cue. Similarly, systematic processing can be minimised by heuristic processing. When a message is ambiguous or too complex to comprehend, heuristic processing can bias the evaluation and interpretation of the persuasiveness of the message.

Research by Ho et al. (2003) proposed that mock jurors who applied less attentional effort and cognitive resources to decision-making, were processing information heuristically. Heuristic processors arrive at sentencing by basing the validity of information on superficial considerations such as the source's perceived credibility, or by complying with the majority attitude. Ho et al. assumed that vengeance-oriented jurors who gave more weight to non-content cues rather than the facts of the case, were processing heuristically. This supports the view of Giner-Sorolla and Chaiken (1997) that individuals may elaborate more on arguments that favour a desired outcome when faced with contradicting information. Thus, as vengeance involves the imposition of harsh penalties designed to make the offender suffer (Wasserstrom, 1978), those motivated by vengeance are likely to search for information that will support rather than dispute their punishment philosophy.

In contrast, Ho et al. (2003) proposed that mock jurors who attend to all of the details of the case and make a considerable effort to comprehensively process the information, are posited to be using the systematic mode of decision-making. When systematic processing is utilised, jurors are motivated to produce a just verdict or decision resulting in minimal influence from heuristic cues. The careful and largely unbiased processing of

information via the systematic mode is considered to correspond to a desire to see justice done, which is the foundation of a justice-oriented view of punishment.

While the HSM was effective in the Ho et al. (2003) study, this research has utilised the similar dual processing model by Petty and Cacioppo (1986) known as the Elaboration Likelihood Model (ELM) of message persuasion and attitude change. The ELM has been chosen over the HSM for a number of reasons. Firstly, Chaiken et al. (1989) suggested that the aim of the HSM was validity seeking to arrive at an accurate attitude with respect to specific situations. Fiske (2004) has pointed out that the objective of the ELM is not validity seeking as stressed in the HSM, but rather to explicate why, what, and how information is persuasive. Secondly, the ELM is much broader in application than the HSM which is targeted at particular heuristic and motivational processes such as availability, accessibility, and reliability as previously discussed. In addition to these considerations, Chaiken et al. have stressed the strong cognitive orientation of the two processing modes of the HSM, precluding any affective involvement, whereas the ELM allows for the influence of affect on message processing which is essential to the current research. This research argues that cognitive processing of information through the central route to persuasion is at the core of the justice motive, and that reliance on peripheral processing influenced by affect is characteristic of the vengeance motive.

CHAPTER 2

Information Processing

2.1 *The Elaboration Likelihood Model of Persuasion*

According to Petty, Cacioppo, Strathman, and Priester (1994), the ELM describes how and what information is processed, and why messages or information have persuasive or non-persuasive influences on existing attitudes. Petty and Cacioppo (1986) have defined an *attitude* as a general evaluation based on behavioural, affective, and cognitive experiences that individuals have about themselves, others, objects, and issues. This research considers justice and vengeance to be examples of such attitudes, consistent with research by Ho et al. (2002), Ho et al. (2003), Stuckless and Goranson (1992), and ForsterLee, ForsterLee, Wilson, and Ho (2007). Attitudes can, in turn, influence behavioural, affective, and cognitive processes. Attitudes may also be involved in *elaboration* which is the amount of thinking an individual exerts about issues contained in a message. When elaboration is high, a comparison process is said to occur between the new and pre-existing ideas and beliefs in memory. New arguments will be generated in response to the scrutinising of the new information, which are integrated into existing schemas for that particular attitude object.

The ELM assumes that while individuals are active processors of incoming information, it is impossible to evaluate all incoming information (Petty et al., 1994). What information is attended to, and how far a message is considered, depends on the individual's ability and motivation. Only when several factors are present such as: (1) both ability and motivation are high, (2) the message is considered worthy of attention, and (3) there is adequate time for reflection available, will individuals engage in "effortful thought

processes" (p. 115). Petty, Gleicher, and Baker (1991) have labelled this thinking strategy *central processing*. The attitude formed as a result of careful scrutiny (or high elaboration) is strong, resistant to counter-persuasive arguments, persists longer, and is more accessible in relation to relevant thoughts and ideas.

Conversely, when the individual's ability or motivation are lacking, then simple situational cues that provide a minimal amount of information necessary to decide whether or not to elaborate on the message further are the focus of attention (Petty et al., 1991). This type of processing according to the ELM is considered to occur through the *peripheral route*. Low elaboration is characteristic of the peripheral route, and as such individuals will give only cursory consideration to an issue or its attributes, concentrating mainly on the superficial aspects. Therefore, the attitude arrived at from low elaboration is weak, less accessible, less persistent, and easily yields to counter-persuasion.

Unlike the HSM, the ELM allows for attitudes based on affect to be persuasive, rather than accepting only cognitive factors (Cacioppo & Petty, 1989). Cacioppo and Petty have emphasised three points to provide evidence that affect is separate and can be differentiated from cognition. Firstly, rudimentary affect is evident in neonates but cognition only appears as the infant matures. Secondly, affect is different from cognition by its potential to arouse feelings rather than facts, and finally, the motivational consequences of affect and cognition also differ. Cacioppo and Petty propose, however, that affect impinges on an attitude in much the same way as cognition. For instance, rather than determining whether an issue deserves closer scrutiny based on cognitive factors such as beliefs and

behaviours, an individual's affective state may act as a persuasive argument for or against further message elaboration. This usually occurs when elaboration likelihood is high and the affect is considered relevant to the central merits of the issue being considered. When elaboration likelihood is high but affect is considered to be irrelevant to the issue under consideration, affect will have little influence on the particular attitude. In addition, when individuals are not able or motivated to engage in the cognitive effort necessary to evaluate an issue, affect (relevant or irrelevant to the issue) will serve as a peripheral cue.

Hale, Lemieux, and Mongeau (1995) tested low and high elaboration of emotionally arousing message content. They found that message recipients who experienced low emotional arousal used central processing, and engaged in high elaboration of message content. Recipients who experienced high emotional arousal processed in a peripheral manner and did not extensively elaborate on the content of the message. Hale et al. surmised that emotional arousal appeals to attitudes via peripheral processing, and appears to inhibit message relevant thinking.

Rosselli, Skelly, and Mackie (1995) also maintain that individuals use both affective and cognitive routes to persuasion and subsequently examined processing of the content of a message that was either rational or emotional. They contend that cognitive elaborations are a reflection of content-related *thoughts*, and that affective elaborations reflect content-related *feelings*. As such, affective elaboration can be considered as an alternative to cognitive elaboration in persuasion.

Using animal experimentation on which to base rational and emotional appeals, Rosselli et al. (1995) found overall, that participants used both

affective and cognitive pathways to arrive at an attitude when presented with an emotional message. Participants produced a stronger affective than cognitive response in reaction to emotional appeals, demonstrating that affective elaborations served as an alternate mediator with respect to the influence of quality on message acceptance. Rational appeals were found to correspond with more cognitive responses and minimal affective responses. Rosselli et al. concluded that if pre-existing attitudes toward issues are associated with cognitive or affective information, then it is likely that any new content-based information is elaborated upon in those directions as well.

Together, the findings by Hale et al. (1995) and Rosselli et al. (1995) lend support to the ELM premise that attitudes can be affective as well as cognitive. In addition, the findings also support the trade-off hypothesis of the ELM that as peripheral processing (the route utilised for affect) increases, central processing (the route utilised for cognition) decreases, and vice-versa (Petty & Wegener, 1998).

2.2 *The ELM and Justice and Vengeance Motives*

The information processing routes of the HSM have previously been associated with justice and vengeance attitudes by Ho et al. (2003). Similarly, the central and peripheral processing routes exclusive to the ELM can also be related to justice and vengeance. Although Ho et al. did not mention an affective route to persuasion in their explanations of their justice and vengeance measure, they did allude to vengeance being emotion-based, and justice as more reason-based. Given that the ELM can accommodate both affective and cognitive information processing, the theory is better suited than the HSM to account for the influence of justice and vengeance attitudes on the decision-making routes to be evaluated in the present research.

The justice motive has been established as being a fair and equitable process with sentencing fitting the severity of the offence (Wrightsmann et al., 2002). As justice is largely reason-based and affect is considered to be irrelevant to the attitude, the central (cognitive) processing mode is proposed to be the predominant route taken to determine the fairness of the sentence.

In contrast, the emotional basis of vengeance promotes a decision or goal to punish harshly because of the perception that a guilty offender deserves to suffer (Ho et al., 2003). Therefore, in accordance with the ELM, the aroused affect (or emotion) is relevant to the attitude, but both the subsequent cognitive elaboration and motivation to process will be low. As such, peripheral processing is viewed as underlying the vengeance motive and corresponds with harsher sentencing.

2.3 Summary

The present research utilises the ELM rather than the HSM employed by Ho et al. (2003), because it is less restrictive in situations that involve affect as well as cognition. Ho et al. have shown that justice and vengeance differentially influence decision-making due to the nature and the information processing preferences associated with those constructs. Hale et al. (1995) and Rosselli et al. (1995) have presented supporting evidence for differing levels of affect and cognition underlying rational and emotional appeals, which are also considered characteristic of the respective natures of justice and vengeance. As detailed in the following section of the present research, the proclivity for affective and cognitive processing in justice and vengeance-oriented individuals is related to the affective and cognitive levels in empathy, sympathy, personal distress, and indifference. These emotions are

considered relevant in juror decision-making as they are recurring themes in this area of research (e.g., Sallmann and Willis, 1984; Sundby, 2003).

CHAPTER 3

Emotions

3.1 *The Nature of Emotions*

Before discussing specific emotions, it should be established what is meant by “emotion”. According to Forgas (1991) isolating an accurate definition of emotion has been an enduring problem in psychological research, as traditionally, emotion is a term used interchangeably with affect and mood. More recently, however, there has been greater consensus regarding the use of these terms. Petty, Gleicher, and Baker (1991) have suggested that “affect” generally refers to both mood and emotion. Mood, however, does differ from emotion which several theorists argue is an important consideration because the outcomes of research utilising these constructs will also differ. Schwartz and Clore (1988) view mood as low-intensity affective states that are relatively enduring but with no immediate recognisable cause, hence little cognitive involvement. Martin (2000) deems mood to be either a positive or negative state (i.e., either good or bad mood). Alternatively, Clark and Isen (1982) claim that moods *can* influence cognitive and behavioural responses, therefore, mood involves cognitive input at some level. Eagly and Chaiken (1993) lend clarification to the disparity between Schwartz and Clore, and Clark and Isen’s perspectives. They suggest that while one can be in a bad mood (but one cannot be in a mad or jealous mood), individuals do not always know why they are in a bad mood.

Conversely, emotions have an identifiable cause, are usually related to a particular person, event, or attitude object (Eagly & Chaiken, 1993), and are more intense and short-lived than moods (Schwartz & Clore, 1988). Eagly and Chaiken maintain that because emotions are ascribed to a

particular attitude object, they also influence evaluations made about the object.

Two main theoretical contributors to emotion research have been Zajonc and Lazarus (Finkel & Parrott, 2006). Zajonc perceived emotion and cognition as two separate systems which at times worked in concert. Lazarus, however, argued that the triggering of emotion requires some form of prior evaluation to have occurred, therefore, cognition and emotion must be dependent dimensions. Although Finkel and Parrott state that the debate between these two perspectives has never been resolved, they offer support for Lazarus's view that emotion and cognition are intertwined. For example, they point out that some emotions are considered to be irrational. An irrational emotion would necessitate beliefs which are cognitive phenomena. Zajonc's theory that emotion and cognition are independent systems is incompatible with this example.

A well-known study investigating emotions via mock juror research was undertaken by Pennington and Hastie (1986). The results of this research showed that jurors' emotions appeared to play a central role in how information presented during trial was perceived and then organised into a story. The way a story was structured affected how jurors decided on responsibility and culpability. Forgas's (1995) view of the effect of emotions on information processing is in accord with Pennington and Hastie's findings. Forgas suggests that emotions affect what individuals pay attention to, can bias memory, and subsequently influences decision-making.

The controversy surrounding a general definition of emotion is also apparent in more specific emotions. In the following sections, four specific emotions (empathy, sympathy, personal distress, and indifference) will be

discussed in relation to their cognitive/affective content and their relationship to justice and vengeance.

3.2 Empathy

The historical background of empathy provides the basis for understanding the construct from its inception to the present assortment of convoluted definitions. Theoretical debates and relevant empirical research are reviewed to justify the rationale behind the definition chosen for empathy in this research. Empathy has its roots in the German word *einfühlung* which has variously been translated to mean *in feeling* (Escalas & Stern, 2003), *feeling into* (Eisenberg & Strayer, 1987; Preston & de Waal, 2002), and *empathy* (Wispé, 1991). A leader in the psychology of aesthetics and form perception, Lipps has been credited with being the first to introduce the concept of *einfühlung* into research (Wispé, 1986). Lipps intended for *einfühlung* to embody the feeling of connectedness experienced when viewing an object. It was seen as a purely affective process, with the self not thinking *about* the object, but rather with the self becoming absorbed *into* the object's experiential world.

Titchener (1909) translated Lipps' term of *einfühlung* into the English word *empathy*, which Wispé (1986) claims is also borrowed from the Greek *empathēia*. Titchener originally supported Lipps' definition, but in later years revised the construct because he came to believe empathy also consisted of an awareness of others' emotions in one's imagination, and that empathy serves as a type of emotional, cognitive, and social bonding mechanism (Wispé, 1986). The motive for Titchener's revision in 1924 was because he realised it was not possible to experience another person's actual mental processes from one's own mental viewpoint. As such, Wispé (1987) claims

that the mental processes of the other person can only be imagined to be what that person is experiencing.

It is at this juncture that the concept of empathy diverged into a confusion of constructs with varied definitions and implications. For example, the principal proponents in the empathy debate contend that empathy is a type of motor mimicry (Bavelas, Black, Lemery, & Mullett, 1986, 1987), a trait or disposition (Mehrabian & Epstein, 1972; Mehrabian, Young, & Sato, 1988), emotional contagion (Doherty, 1997; Thompson, 1987), a therapeutic strategy (Basch, 1983; Havens & Palmer, 1984), a perspective/role taking ability (Buss, 2001; Krebs, 1975), a vicarious emotional response (Feshbach, 1975), or a combination of cognitive and emotional processes (Cliffordson, 2001; Hoffman, 1982, 1984a, 1987, 1991). From the empathy literature, two contentious themes have emerged. The first is concerned with whether empathy is cognitive, affective, or both, and the second is whether self/other differentiation occurs. In order to support the position advocated in this research, each of the aforementioned perspectives are examined.

3.3 *Motor Mimicry*

The notion of empathy as a form of motor mimicry has been investigated by Bavelas et al. (1986). They view motor mimicry as a primitive form of empathy with varying levels of intensity that are evoked by the immediate social situation. Motor mimicry is evident early in life, with infants demonstrating a propensity to mimic parents' actions (e.g., a smile). In adults, motor mimicry is evident in many responses and one example given by Bavelas et al. is that of a grimace in response to an unpleasant sight. Motor mimicry is not merely a simple reflex but a spontaneous, non-verbal

behavioural response that acts as an expression of understanding by an observer of what a target person, or others are perceived to be feeling.

Rather than refute the possibility of cognitive involvement, Bavelas et al. (1987) relegated any such intrapersonal process to being a probable parallel function that can intersect or be separate to motor mimicry. They suggested that motor mimicry is perhaps closer to what Lipps meant when referring to *einfühlung* as feeling at one with works of art or a person, rather than Titchener's interpretation of empathy. It appears that Bavelas et al. (1986, 1987) do not regard empathy as an emotion per se, but as a fleeting, mimetic behavioural response to an emotional state exhibited by another person.

3.4 *Dispositional/Trait Empathy*

Mehrabian and Epstein (1972) labelled this response "emotional empathy" and later research by Mehrabian et al. (1988) considered empathy to be a disposition or trait. Similar to Bavelas et al. (1986, 1987), Mehrabian et al. believed empathy to be a primitive, involuntary vicarious emotional response that is shared between the empathiser and the target, and is purely affective.

Mehrabian and Epstein (1972) developed an instrument to measure dispositional empathy which they called the Emotional Empathic Tendency Scale (EETS). While Mehrabian et al.'s (1988) definition of empathy alludes to understanding or experiencing others' emotions by use of the word "sharing", questions on the EETS do not appear to measure these dimensions. Rather they refer only to the presence or absence of feelings about certain objects or events, and seem to be assessing sociability or affiliative tendencies rather than empathy.

This has been supported by findings of positive correlations between the EETS and Mehrabian's measure of affiliative tendency and sensitivity to rejection scale (Mehrabian et al., 1988). Mehrabian and O'Reilly (1980) found the EETS also correlated positively with Mehrabian's affiliative tendency scale, and with the Jackson affiliation scale. A further argument by Chlopan, McCain, Carbonell, and Hagen (1985) holds that the EETS actually measures the level of arousability in response to another's distress rather than empathy. This suggestion was based on the finding of low correlations between the Hogan Empathy Scale and the EETS.

There is an additional matter of importance in relation to Mehrabian et al.'s (1988) dispositional/trait definition of empathy. The claim that empathy is "involuntary" is questionable because individuals do not empathise consistently in all situations; they are selective. Additionally, if empathy is involuntary, individuals would indiscriminately empathise with every unfortunate person they encounter proximally or distally.

Another source of refutation comes from Bandura (2002) who maintains that infants are not born empathic, but learn to be so through socialising experiences. The experiences gained determine whether an individual feels or fails to feel empathy for others in certain situations. Defining empathy as an involuntary vicarious response is problematic because in everyday life individuals are "repeatedly exposed to others in distress, pain, apprehension, frustration, anger, and despondency" (Bandura, p. 25). Bandura stressed that it would be impossible to function normally if people involuntarily responded to every instance that evoked empathy, because of the continuous emotional overload that would be produced.

Several educational programs have been developed which support Bandura's (2002) claim that empathy is an emotional reaction learned through social interaction. These types of programs strive to: (1) teach empathy to children and youths in schools (Cotton, 2003); (2) develop activities that teach able-bodied children to empathise with handicapped children (Robinson, 1979); and (3) introduce "caring courses" that involve children's exposure to nursing home occupants, the disabled, and the activities of humane societies (American Psychological Association, 2004, para. 32). Empathy programs are also in existence in prisons with the aim of teaching inmates how to empathise with others and to experience how their crime made the victim feel (Kilgore, 2001).

Vaknin (2004) provides further support for Bandura (2002) by maintaining that although primitive empathy may be innate in newborns as proposed by Doherty (1997), the ability to understand why and how individuals empathise depends on cognitive development as newborns do not know what it is like feel sad, or what it is like for others to feel sad. Mature empathy, therefore, is an internal reaction to external stimuli that is learned through socialisation, develops in parallel with a moral code and a self-concept, and is associated with the inhibition of anti-social behaviour. Vaknin believes that this socialisation process is similar to that of guilt, a learned response that teaches individuals to feel responsible for others. This would indeed appear to be the case, as several researchers have found that empathy is either a positive or negative reaction to a constellation of emotions rather than a response dedicated to a single emotion (see Davis, 1983; Eisenberg, 2000; Fultz, Schaller, & Cialdini, 1988; Mehrabian & Epstein, 1972; Preston & de Waal, 2002).

3.5 *Emotional Contagion*

A third theory of empathy is that of emotional contagion which aligns closely with the affective view espoused by Mehrabian and Epstein (1972) and motor mimicry proposed by Bavelas et al. (1986). Doherty (1997) maintains that emotional contagion is affective in nature and is therefore less complex than cognitive forms of empathy. Like motor mimicry, this perspective also proposes empathy/emotional contagion to be an innate capacity found in newborns, but it elaborates further on the basic process. Similar to motor mimicry, it initially involves mimicking which then facilitates the experiencing of another's emotional state. The emotional contagion theory is a more thorough explanation than the motor mimicry theory, as it contends that the emotional response can either be identical or complementary to the perceived emotion. Doherty gives examples for an identical response as "a smiling response to smiles" (p. 134) which is similar to Bavelas et al.'s (1986) motor mimicry example of an infant's smile in response to his or her parents' smiles. According to Doherty, an example of the complementary response is "withdrawal from a threatened blow" (p. 134), which also corresponds to Bavelas et al.'s (1986) example of a grimace in response to an unpleasant event.

Apart from the replication of non-verbal behaviours, emotional contagion also includes awareness of feelings and can lead to the expression of such awareness (Thompson, 1987). This facet is lacking in descriptions of the dispositional/trait and motor mimicry empathy definitions. Nevertheless, Thompson argues that emotional contagion is a precursor to empathy as there is no attempt to understand the other person's state or situation; only the experience of a similar emotion to that of the other person. While

emotional contagion is clearly in the same category as motor mimicry and the dispositional/trait definition of empathy, it appears to be a slightly more advanced ability. Hoffman (1987) makes a convincing argument that shows none of these views could be considered to be empathy per se, and confirms Thompson's claim that they are indeed what he called precursors to empathy, or primitive empathy.

Hoffman (1987) supported Thompson's (1987) suggestion by maintaining that when emotional contagion occurs in children, that they have difficulty realising the emotion emanates from an external rather than internal source. Adolescents and adults however, do possess the intellectual capacity to understand the source of emotions. Hoffman suggested that knowing the difference between one's own and another's emotional experience, and knowing that the experience is happening to the other person is the difference between primitive and mature empathy.

3.6 *Empathy in Psychoanalysis*

From the psychoanalytic perspective, mature empathy according to Basch (1983) is an essential skill of an effective therapist in understanding the client's mental life. It involves intentionally comprehending and then experiencing the client's affect, while remaining objective. Basch maintains that when the therapist experiences the client's emotions as if they were his or her own, the therapist understands that it is only a representation of what the client is feeling. Havens and Palmer (1984) called this "an exercise in clinical imagination" (p. 285), and asserted that it is the affective, cognitive, and perceptual components of empathy that enable the therapist to arrive at an understanding of the client's affective experience. Basch reinforced this point by stating that when empathising, it cannot be the exact emotion that is

experienced because sometimes people misinterpret others' emotions. Basch also argued that infants and young children cannot be empathic because they have no sense of self, but are able to respond to the affect expressed by others. This suggestion lends further support to Hoffman's (1987) and Thompson's (1987) distinctions between primitive and mature empathy. Psychoanalytic empathy, however, because of its deliberate nature, is akin to the perspective or role taking approach. Davis (1983) argues that perspective taking is only one aspect of empathy.

3.7 *Perspective/Role Taking*

According to Deutsch and Madle (1975), the process of mature empathy used in psychoanalysis and described by Basch (1983) is otherwise known as role taking or perspective taking (Buss, 2001). It involves imaginatively putting oneself in another's place to understand that person's situation. As a consequence, the empathiser comes to understand and experience the individual's feelings (Buss, 2001).

The perspective/role taking approach has instigated research that involved instructing participants to imagine how they would feel, or to imagine how the other person must be feeling in a particular situation. This research paradigm is known as the imagine-self/imagine-other design (Aderman, Brehm, & Katz, 1974; Archer, Foushee, Davis, & Aderman, 1979; Batson, Early, & Salvarani, 1997). The imagine-self instruction involves imagining how the self would feel in the same situation, leading to low levels of empathy for the other person. There is a certain amount of detachment in this technique, due to the focus being diverted from the other person to the self. Conversely, empathy is experienced via the imagine-other instruction which involves imagining how the other person views the situation and what

is felt (Batson et al., 1997). Using this approach does not allow empathy to occur naturally but artificially facilitates or discourages it.

3.8 Vicarious Emotional Response

Rather than trying to elicit or inhibit empathy, the vicarious emotional response definition of empathy is concerned with the sharing of the emotion. For Feshbach (1975), such sharing is contingent on the empathiser possessing three skills. Firstly, the empathiser must be able to role-take in order to generate the same emotional experience as the other person. Secondly, the empathiser must be accurate in the perception of this emotion, and finally, he or she must have the ability to freely experience a variety of emotions vicariously, in order to be able to share others' emotions. According to Wispé (1986), using *vicarious* in any definition of empathy is faulty reasoning as vicarious means "the imaginative participation of one person for another" (p. 318).

D'Arms (2000) noted that if empathy is a vicarious experience, then the observed person and the observer would both be expressing empathy, rather than the person being observed expressing some other emotion (e.g., grief). The empathiser, therefore, cannot possibly be experiencing the other person's emotion. Empathisers may only experience what they *perceive* the person is feeling, an argument put forth by many theorists (e.g., Hoffman, 1987; Thompson, 1987; Titchener, 1924). This also casts doubt on the necessity for accuracy of the empathiser's perception of what the other person is experiencing. Further problems arise for the vicarious emotional response definition of empathy from claims by Hoffman (1984b) that individuals can feel empathy in the absence of the actual target person (e.g.,

through reading a letter). The implication is that the empathiser could not be “sharing” an emotion if the other person is absent.

3.9 Cognitive/Affective Empathy

Finally, empathy has been promoted as a combined cognitive and affective response (Cliffordson, 2001; Hoffman, 1984a, 1984b, 1987, 1991). Hoffman's extensive investigations of empathy from a social cognitive perspective have consistently emphasised these two components. Strayer (1987) reinforced the necessity of empathy having an affective component by highlighting that psychopaths can convincingly role-take to appear empathic, but they are usually devoid of emotional involvement.

Thus, it is apparent that the affective component is concerned with whether the emotion *felt* by the empathiser is compatible with that of the other person, and that the cognitive component is concerned with the empathiser's *understanding* of the individual's affect and situation. In addition, Hoffman (1982) has maintained that the response should be more appropriate to the other person's situation or feelings than to one's own situation or feelings, which further clarifies the mechanics of empathy.

Hoffman (1987) attributes the affective arousal in empathy to the empathiser having previous encounters with similar experiences, or having observed others in similar predicaments, and associating these feelings with the current situation. This is consistent with the assertion by Wispé (1987) that the self is not experiencing the same emotion as the other, but is evoking feelings of the empathiser that match with what he or she perceives the other person to be feeling.

Hoffman (1984b) also notes that the depth of cognitive processing varies in different types of empathy depending on the way emotion is

communicated and the type of situation. Primitive empathy activated by non-verbal and situational cues is accompanied by shallow cognitive processing. In contrast, mature empathy evoked by verbal communication, knowledge about the other person, or written communication about another's feelings and/or circumstances is more cognitively complex. Hoffman (1984b) states that this type of cognition involves semantic interpretation and perspective/role taking.

Cliffordson (2001) investigated the four subscales of the Interpersonal Reactivity Index (the IRI) developed by Davis (1980) to measure empathy. Davis argued that the cognitive and affective components of empathy were separate entities and should be measured accordingly. Cliffordson's work failed to support Davis' assertion, finding that empathy consisted of one dimension which was a combination of cognition and affect.

Support for Cliffordson's (2001) claims that empathy consists of both affect and cognition may be seen in recent work performed in the area of visual imaging by Singer et al. (2004). Their work has important implications for the empathy debate and also assists in the justification of the operationalisation of the definition of empathy used in this study. Singer et al. performed a series of functional magnetic resonance imaging scans to investigate areas of the brain activated by non-verbal empathy induced by watching another person's painful response. Certain areas of the brain were shown to become active when a person was feeling pain. The same regions were partially activated when empathising with another person's experience of pain. Singer et al. concluded that when a person empathises, a reliving of his or her experiences with that or a similar situation occurs. Empathisers perceive that their affective reaction is what the other person is currently

experiencing. Singer et al. theorised that cognitive mechanisms in the brain automatically trigger the creation of a simulation that enables the empathiser to imagine and experience what the sufferer is enduring. They stress that the emotion is not identical to what the other person is feeling, as the sensory activation imposed from external stimuli in the original sensation of pain is not present. Given only the activation of the secondary pain matrix occurs, Singer et al. maintained that any affective experience is subjective or imaginal, not actual. This finding is consistent with Titchener's (1924) assertion that empathy involves an ability to identify and imagine what another person is experiencing, but is not what the other person is actually experiencing.

Eisenberg and Strayer (1987) included self/other differentiation in the conceptual debate arguing that the empathiser is not merging with the other person as claimed by Davis, Conklin, Smith, and Luce (1996). Eisenberg and Strayer suggest that at a fundamental level, empathy must involve knowing the difference between the self and another, and that the ability to empathise is possible only if there is discrimination between self/other affective responses. According to Eisenberg, Wentzel, and Harris (1998), sadness can be considered as one of the affective responses of empathy. A demonstration of self/other discrimination by Eisenberg (2000) used an example of an individual who feels sad in response to viewing another sad person. While the empathising individual experiences sadness, there is awareness that the "sad person" is a separate entity.

The present study requires a definition of empathy that is applicable to a courtroom situation; in particular, one that allows for both affect and cognition. Both elements are necessary as courtroom communications are

predominantly verbal and demand cognitive engagement. Additionally, the extent of the empathy relies on the level of emotional intensity experienced which is based on, and impacts how the information is processed.

This study concurs with the positions of Hoffman (1982, 1984b) and Eisenberg, Losoya, and Spinrad (2003) who consider empathy to involve more affect than cognition. Therefore, empathy is defined as an affective response that stems from (or is congruent with) the apprehension or comprehension of another's emotional state and/or situation. It also involves imaginal processing and/or interpretation of verbal and non-verbal cues.

It has previously been established that individuals who process predominantly affect-based information at the expense of cognitively-based information (as found in empathy), are processing via the peripheral route of the ELM (Petty et al., 1994). This research also argues that the affective/peripheral route of the ELM underlies vengeance because it is principally emotion-based. As empathy is also largely emotion or affect-based, it is anticipated that individuals who are vengeance-oriented will respond with empathy in the context of the murder trial to be used in this study.

3.10 Sympathy

Eisenberg (2000) maintains that empathy has long been confused with sympathy. The concept of sympathy has had a similar genesis to empathy and relates to the German word *mitgeföhlung* which translates to *with feeling* (Escalas & Stern, 2003; Strayer, 1978). The equivalent Greek word *sympatheia* corresponds to fellow-feeling (Johnston, 1976), and the Latin word *sympathia* connotes suffering, pity, or pathos (Wispé, 1986). Therefore, Wispé (1991) maintains that sympathising involves feeling moved by another

person's negative emotions such as grief but not by positive emotions like joy or happiness.

Identification of others' emotions is dependent on the ability to put oneself in another's place which according to Eisenberg et al. (2003) and Hoffman (1984a) is the mechanism underlying empathy. Gruen and Mendelsohn (1986) however, suggest it is also characteristic of sympathy. This is in accord with Haidt's (2003) suggestion that sympathy consists of comprehending the feelings and thoughts of the sufferer. Additional aspects of sympathy have been delineated by Haidt such as: a desire to comfort or help; to alleviate the other person's suffering or sorrow; and to feel moved by the individual's suffering or sorrow.

While the sympathiser may feel "moved", Escalas and Stern (2003) maintain that sympathy also includes the ability to remain consciously aware of, while removed from, the emotional stimulation evoked by another's feelings or situation. This emotional distancing is due to self/other differentiation and self/other orientation. Self/other differentiation has been explained previously by Eisenberg and Strayer (1987) and corresponds to the awareness that the individual who is the object of sympathy, is a separate entity from oneself. Escalas and Stern claim that sympathy also includes self/other orientation. That is, the other person is the focus of sympathy but a measure of distance is maintained by the sympathiser to avoid becoming too deeply affected by the emotional aspect. Affective arousal in the sympathiser may interfere with the ability to understand the other person's emotions or situation. The understanding of another's experience is enabled by the cognitive content of sympathy (Eisenberg, Shea, Carlo, & Knight, 1991). Eisenberg et al. contend that sympathy involves more sophisticated

cognitions than empathy (which is more concerned with feeling), as greater cognitive effort is necessary for such understanding to take place.

As sympathy and empathy have long been considered to be one construct, research using the term *sympathy* is sparse (Eisenberg, 2000). Batson, O'Quin, Fultz, Vanderplas, and Isen (1983) acknowledged that their use of the word empathy (and their research using this term), more appropriately refers to sympathy. Batson et al. however, chose to retain the empathy label to maintain consistency with previous research conducted in co-operation with various colleagues. Reference made in the current research to findings produced by Batson and colleagues, therefore uses the term sympathy to avoid confusion with empathy.

To determine whether sympathy was aligned with justice (or fairness), Batson, Klein, Highberger, and Shaw (1995) conducted two experiments. In the first experiment, participants acting as supervisors were asked to allocate one negative and one positive task to two others. One of the two supervisees would be adversely impacted by the task assignment decision. It was found that sympathetic supervisors did not deviate from the principle of justice in allocating tasks and therefore showed no favouritism toward the needy supervisee. In the second experiment, interviews with terminally ill children were used to determine whether sympathetic participants would move a child higher on a waiting list for treatment, when presented with this possibility. By doing so, participants were reminded that the child whose story they had heard would benefit immensely, but that the children who had been originally placed ahead of this child may subsequently have shorter life expectancies. Again, feeling sympathetic did not result in participants

violating a just and fair decision, preferring not to advance the child on the waiting list.

To provide evidence that sympathy has unique characteristics, Eisenberg et al. (1988) subjected child and adult participants to self-report and physiological measures that included facial and heart-rate measures. The rationale underlying the use of heart-rate measures was that there would be idiosyncratic physiological responses relevant only to sympathy. The results of the 1988 study along with a further study by Eisenberg et al. (1989) showed that when participants reported a sympathetic response to a scenario, heart-rate decelerated. This decelerated heart-rate in response to sympathy-inducing scenarios was associated with the outward focusing of attention on the person of interest and with cognitive processing of information about the other person. Wispé (1986) adds that processing of this information includes the urge to alleviate another's suffering by helping. This urge is also present even when the other person cannot be helped, for example, in the case of a murder victim.

The research reviewed supports this study adopting the position that sympathy necessitates more cognition than affect, and also involves some emotional distancing. The definition for sympathy used in the present study combines the views of Eisenberg (2000), Escalas and Stern (2003), and Hoffman (1987). Sympathy is therefore defined as the emotional response of an observer that has stemmed from the apprehension or understanding of the emotional state and/or situation of another person. It is not the same emotion experienced, or expected to be experienced by the other individual, but rather consists of other-directed feelings such as concern about the other

person's state or situation. Even though such feelings are aroused, the sympathiser maintains emotional distance.

Research indicates that the justice motive relates more appropriately to sympathy than the vengeance motive. Support for this contention is evident when further examination of what constitutes sympathy and justice is undertaken. That is, sympathy has been shown to require a level of detachment to avoid being over-aroused by affect, and to involve greater complex cognitive processing of the other person's plight than empathy. Ho et al. (2002) have explained the justice motive as also being more cognitive than affective in nature, and therefore more reason-based. The central processing route of the ELM has been posited as underpinning cognitive information processing inherent in the justice motive. The central route, as previously stated, encourages careful scrutiny of issue-related information, usually resulting in a less biased attitude than information processed via the peripheral route. For these reasons, it is concluded that the justice motive is associated with sympathy.

3.11 *Personal Distress*

Traditionally, personal distress and sympathy were synonymous and subsumed under the empathy rubric (Eisenberg, 2000). According to Hoffman (2000), personal distress is distinct as it occurs due to over-arousal from affective and cognitive input. Eisenberg states it is "a self-focused, aversive, affective reaction to the apprehension of another's emotion (e.g., discomfort or anxiety), such as the distress of a person feeling anxious when viewing someone who is sad" (p. 672).

Evidence of personal distress as a discrete emotional response has been demonstrated by Eisenberg et al. (1988) and Eisenberg et al. (1989).

Child and adult participants were tested with self-report and physiological measures. The same rationale used to distinguish sympathy was also applied to personal distress. That is, personal distress was expected to produce idiosyncratic physiological responses.

The study by Eisenberg et al. (1989) found that when participants reported responding to scenarios with personal distress, it was associated with accelerated heart-rate and feelings of apprehension. Cognitive processing of information centred on the implications of the situation for the self, resulting in the exclusion of external events and creating an internal focus of attention. These findings are consistent with the previous study by Eisenberg et al. (1988) which indicated accelerated heart-rate for the personal distress response. It is important to recall that Eisenberg et al.'s (1989) findings showed a deceleration in heart-rate for sympathy responses. Thus, sympathy and personal distress were able to be distinguished by the physiological responses of the individual.

Support for self focusing in personal distress has been established by Davis (1983). Davis' multidimensional measure of empathy (the IRI) incorporates four subscales designed to measure perspective taking, fantasy, empathic concern, and personal distress. Davis found that the personal distress subscale on the IRI was not correlated with the F Scale (sensitivity to others' feelings and experiences) of the Personal Attributes Questionnaire, indicating a lack of concern or sensitivity oriented toward others. This finding is consistent with Cliffordson's (2001) investigation into the factor structure of the IRI which found that personal distress on this scale did not appear to contribute to empathy and as such appeared to be a separate factor.

Eisenberg et al. (1998) noted that the self focusing aspect of personal distress is the opposite of that found in the sympathetic response, and suggested this is because personal distress has higher levels of affective arousal than sympathy. Additionally, Eisenberg et al. (2003) suggested that personal distress and sympathy both involve cognitive engagement, which enables analysis of the source of the affect. A difference between the two lies in the direction of the focus; specifically, sympathy is other-focused, and personal distress is self-focused. Eisenberg et al. (1998) add that personal distress is usually elicited by recognition of another person's position which evokes aversive cognitions in the distressed individual. Rather than concentrating on another's suffering, the focus switches to self-created discomforting emotions and cognitions. Eisenberg et al. (1998) used the sad person illustration to explain personal distress. That is, personal distress occurs if an individual responds to another person's sadness or unfortunate situation with self-focused discomfort.

A number of implications that personal distress may hold for justice motivated behaviour have been investigated by Batson et al. (1995). In the two experiments previously discussed in relation to sympathy and justice, Batson et al. also examined how these same scenarios affected justice decisions of distressed participants. In experiment one, which involved assigning positive and negative tasks to supervisees who were needy or not needy, it was found that personal distress resulted in justice not being adhered to by the participant in the role of supervisor. Rather, the majority of participants preferred to allocate the positive task to the needy but less worthy participant. Similarly, in experiment two, personally distressed participants advanced the sick child up the waiting list, at the expense of the

more seriously ill children. These participants were aware they were being irrational, unfair, and that the decision could be considered immoral, but did so to quell their own emotional turmoil and end the child's suffering.

As personal distress is proposed to consist of high levels of both affect and cognition, this research adopts the position of Eisenberg (2000), Eisenberg et al. (2003), and Eisenberg et al. (1998), with the inclusion of the cognitive component. Personal distress, therefore, is defined as a self-focused, aversive, cognitive and affective reaction to the apprehension of another's suffering or situation.

The proposition that personal distress consists of high levels of affect and cognition, has not clarified whether the affective or cognitive route of the ELM will be utilised. Ho et al. (2002) have previously suggested that revenge is a source of relief for feelings of discomfort that have arisen (usually) from anger. Similarly, personal distress consists of distressing or discomforting feelings and thoughts that the distressed individual also desires to relieve (Batson et al., 1983). Personal distress, as previously discussed, involves a strong self-focus on the individual's own feelings and thoughts to the exclusion of the other person. It arouses thoughts of escape or relief from these uncomfortable feelings. Several studies examining personal distress have included terms such as vulnerable, fearful, uncertain (Davis, 1983), alarmed, distressed, disturbed, troubled (Fiske, 2004), and uneasy (Fultz et al., 1988). Such aversive feelings and thoughts are those that a retributive individual would try to relieve by punishing harshly, and hence the vengeance motive is proposed as being associated with personal distress.

3.12 *Indifference*

It is plausible that individuals may respond to the distress of others with indifference. This research proposes that the indifference construct consists of low affect and low cognition, because of the similarity to a construct identified by Sojka and Giese (1997). Their research involved developing the Preference for Affect Scale to measure affective and cognitive processing styles thought to persuade viewers of an advertisement's effectiveness. Individuals with low scores for both affective and cognitive processing emerged from the data and were labelled *Passive Processors*. The Preference for Affect Scale was also utilised by Ruiz and Sicilia (2002) with the aim of matching the nature of an appeal to affective or cognitive processing preferences. Once again, *Passive Processors* emerged from the data. Both Sojka and Giese, and Ruiz and Sicilia failed to speculate on which aspect of processing, cognitive or affective, or both, would become dominant in particular situations.

As no studies appear to exist that have investigated this type of information processing, it is not known whether indifference in this research is motivated by justice or vengeance. Two possibilities can therefore be postulated. Firstly, it has previously been established that peripheral information processing is typical of the vengeance motive. The peripheral mode is utilised when ability or motivation are low, with simple, extraneous cues being used to form, or inform an attitude (Petty et al., 1994). It can be argued that this is also characteristic of the indifferent individual who is low on both affective and cognitive involvement, which equates to low motivation. Thus, it is proposed that the indifferent individual motivated by vengeance should engage in peripheral information processing.

The second alternative is that the justice motive may influence indifferent individuals. As justice is not amenable to emotional influence and is reason-based (Ho et al., 2003), and indifference similarly consists of low affective involvement, it is possible that indifference is motivated by justice, and hence central information processing.

3.13 *Empathy, Sympathy, Personal Distress, and Indifference*

This research has established that empathy consists of high affect and low cognition; sympathy is associated with high cognition and low affect; personal distress has high levels of both affect and cognition; and indifference consists of low levels of both affect and cognition (see Figure 1).

		COGNITION	
		High	Low
AFFECT	High	Personal Distress	Empathy
	Low	Sympathy	Indifference

Figure 1. Levels of affect and cognition in the constructs of empathy, sympathy, personal distress, and indifference.

Support for the composition of these constructs comes from two experiments conducted by Escalas and Stern (2003) into the emotive properties of advertisements. The different levels of cognition and affect manifest in empathy, sympathy, personal distress, and indifference are most apparent from the results of these two experiments, although it was not the intention of the researchers to demonstrate this.

In both of the experiments by Escalas and Stern (2003), empathy was defined as consisting solely of affect, and sympathy consisting entirely of cognition. If their results are viewed in terms of cognition (rather than Escalas and Stern's sympathy), and affect (Escalas and Stern's empathy), the composition of each of the constructs of empathy, sympathy, personal distress, and indifference argued in this study are illustrated. In experiment one, Escalas and Stern found four constructs emerged comprising various combinations of high and low levels of empathy and sympathy. The first consisted of high sympathy and high empathy (i.e., high cognition and high affect which equates to personal distress). The second combination was high sympathy and low empathy (i.e., high cognition and low affect which equates to sympathy). The third combination consisted of low sympathy and low empathy (low cognition and low affect equating to indifference); and the final outcome showed low sympathy and high empathy (i.e., low cognition and high affect equating to empathy). The results of this experiment were replicated by Escalas and Stern in a second experiment.

Further support for the delineations of the constructs depicted in Figure 1 arises from the four typologies labelled Thinking Processors, Feeling Processors, Combination Processors, and Passive Processors identified by Sojka and Giese (1997). Thinking Processors rely more on cognitive processing to reason about an issue. Feeling Processors manage information in a peripheral manner, relying on affective processing to inform them whether an issue is one that they like or dislike, or feel good or bad about. Combination Processors are equally high in both affective and cognitive processing, and Passive Processors are equally low on both affective and cognitive processing. Sojka and Giese indicated that decisions

made on issues depended on whether affect or cognition dominated. These notions are consistent with those of the present study in relation to empathy, sympathy, personal distress, and indifference. Specifically, Thinking Processors are analogous to sympathy, Feeling Processors to empathy, Combination Processors to personal distress, and Passive Processors to indifference.

CHAPTER 4

Decision-Making

4.1 *Emotions in the Courtroom*

In the current research, it is expected that empathy, sympathy, and personal distress should have differential influences on decision-making in the context of a murder trial. It is unknown how indifference will influence decision-making. Evidence from previous research into the emotional impact of trial evidence on judgements made by jurors (consisting of the verdict, the volition, and the sentence), will now be explored.

Research reported by Sundby (2003) from the Capital Jury Project utilising personal interviews, found that jurors who had served on murder cases and believed in the death penalty were almost twice as likely as jurors who believed in a life sentence for the same crime, to have imagined themselves in a murder victim's place. When the victim was random and was not risk taking at the time of the murder, the number of jurors who claimed to have imagined what the victim had endured increased. Sundby further found that these jurors personalised the victim by comparing the events surrounding the murder to events in their own life. For example, if a victim had been murdered after her vehicle had broken down, these jurors would remark about also having travelled that particular road.

Similarly, Deitz, Blackwell, Daley, and Bentley (1982) found that jurors who responded with empathy to a rape victim generally:

(1) attributed less responsibility to the victim for what happened; (2) tried to help the victim by meting out higher prison sentences to the defendant; and (3) were more confident of the defendant's guilt and intent (i.e., they attributed high volition). Sundby (2003) confirmed that juror empathy plays a

substantial role in the courtroom and may be summed up in this statement given by a juror who had deliberated in a murder trial – "I kept thinking about how horrible it must have been for that woman during those last few hours of her life" (p. 363). Clearly, strong emotional reactions are evoked by empathising with a victim and appear to be vengeance-driven rather than justice-driven as evidenced by the tendency to personalise the victim and to sentence harshly.

Intrigued by the different reactions that jurors had to the same victim, Sundby's (2003) further investigations identified an additional response from jurors who "felt for the victim", but were able to dispassionately consider the evidence. These jurors concluded that the defendant's actions were brutal, but the potential result of the crime could have been much worse for the victim. According to Sundby, these jurors were experiencing sympathy rather than empathy.

A meta-analysis conducted by Bandes (1996) into juror responses found that empathy and fear could be evoked by victim impact statements. The aroused emotions diminished the ability of jurors, to varying degrees, to attend to other relevant trial information such as evidence that lessens the culpability of the defendant. Bandes claimed these reactions were linked to motives such as hatred, vengeance, and anger that may result in jurors dehumanising defendants. This consequence potentially facilitates the rendering of the harshest punishment (the death penalty). While the legal profession still adheres to the notion that reason and emotion can be separated, Bandes maintains that emotion has a cognitive component, and reasoning has an emotive component. Reasoning, therefore, cannot escape some emotional influence.

Weidenhofer (1995) reported on another type of emotional reaction jurors can have in response to trial evidence that is comparable to personal distress. In a trial of attempted murder, medical evidence was presented on the extent of injuries inflicted on the defendant's former girlfriend and her parents with a samurai sword. Upon hearing that the father had been struck on the head with the sword, stabbed in the throat, had two fingers severed and a thumb partially severed, a female juror fainted and the trial was halted. Similarly, Hall (2002) reported that the trial of a man accused of murdering four members of one family was halted when a male juror fainted after being presented with a graphic video of the crime scene. Stingl (1996) reported that when a juror was asked why he had fainted, the 20-30 year old male juror replied it was due to his thoughts and past experiences. While these instances represent extreme emotional reactions, they indicate that some jurors focus on themselves and become personally distressed, rather than feel empathic or sympathetic in response to the trial evidence.

While research exists on empathy, sympathy, and personal distress in the courtroom, there does not appear to be any research that specifically refers to indifference. Nonetheless, a report by Murphy (2003) indicates that indifference does occur. Based on findings from a study of individuals who had undertaken jury duty in the Brisbane Supreme Court, the focus of the report was on the factors that distracted jurors from paying attention to the trial evidence. It was noted that at times the evidence caused boredom, a loss of concentration, and sometimes confusion. Jurors also reported making assumptions to fill gaps in the evidence. In addition, the behaviour of barristers was used to form opinions of the defendant or victim. These findings indicate that indifference towards the defendant or victim does occur

in criminal trials and that jurors may use peripheral details rather than factual trial evidence to form opinions. Murphy did not, however, speculate on how this influenced jurors' decision-making.

In conclusion, there is some evidence to show that empathy, sympathy, personal distress, and indifference appear to influence juror decision-making in criminal trials. The research reviewed has shown that individual differences are apparent in whether jurors will be empathic, sympathetic, personally distressed, or indifferent. It is also possible, therefore, that the different levels of affect and cognition comprising these emotions could also influence information processing of factual or emotive evidence presented in the courtroom. Specifically, consistent with the existing schema proposition of the ELM, empathy, sympathy, personal distress, and indifference may act as schemas influencing the focus on either factual or emotive evidence, which subsequently affects a juror's judgement. Petty and Cacioppo (1986) have emphasised the schema as "one of the most important variables affecting information processing activity" (p. 165). The ELM mainly addresses how persuasion affects schemas or how schemas are strengthened in relation to relevant or irrelevant information. However, as this research is concerned with how schemas (i.e., the targeted affective states or emotions in this study) direct attention toward congruent or incongruent information, Schema Theory was considered pertinent in explaining this part of the process.

4.2 *Schema Theory and Processing of Factual and Emotive Evidence*

Attention has been drawn to the existence and influence of factual and emotional juror biases by Horowitz, Kerr, Park, and Gockel (2006). Factual

juror biases occur in response to information about the facts of a case, such as a defendant's prior convictions. Emotional biases result from information that affects jurors' emotions, such as irrelevant information presented about a victim's character. Horowitz et al. contend that both factual and emotional biases have the power to influence juror judgements. Feigenson and Park (2006) have suggested that one way these types of biases can affect legal judgements is by acting as informational cues to jurors' schemas.

According to Fiske and Taylor (1991), a schema is generally thought of as a cognitive structure comprising general knowledge and expectations about a concept such as a particular person, or stimulus. Smith and Queller (2004) state that a schema can act as a cognitive shortcut, resulting in information being processed that matches pre-existing knowledge held in the schema. Activation of a schema occurs in response to thoughts about, or encounters with, consistent or at times inconsistent information. According to Brewer and Nakamura (1984), schema-irrelevant information is remembered better when it is inconsistent with a concept, commanding more attention. Brewer and Nakamura used an example of a story about a racing car driver to demonstrate schema-relevant and schema-irrelevant information. If the story says that the car went right because the racing car driver steered to the right, then this information is considered to be readily available from the schema, and the individual will direct less attention to it. If the story contains inconsistent, schema-irrelevant information, such as "a man in the stands stood up, pointed his finger at one of the cars, and it turned into a giant twinkie" (p. 145), then the individual will direct considerable attention to it, to try to comprehend and incorporate it into the existing schema for the story.

Stern, Marrs, Millar, and Cole (1984) have argued that while inconsistent behaviours are better recalled than consistent behaviours, such findings depend on whether the information presented is concerned with an individual or a group. Stern et al. hypothesised that observers do not expect all members of a group to behave in a consistent manner, but do expect that individuals will behave in a consistent manner. An individual's inconsistent behaviour will therefore lead to more detailed processing, and more elaborate encoding of the inconsistent act will take place. Two experiments were conducted, with two groups of subjects in experiment one being presented with lists of behaviours performed by either an individual or by members of a group. The results supported the hypothesis that inconsistent behaviours performed by individuals were more freely recalled than consistent behaviours, compared to recall of inconsistent behaviours performed by members of a group. The second experiment aimed to determine whether inconsistent behaviours took more time to process compared to consistent behaviours, hence, indicating that more elaborative processing was taking place. The results showed that processing times were longer for inconsistent rather than consistent behaviours in relation to individuals rather than members of a group. Though Stern et al. did not state whether the information presented to these subjects was considered schema relevant or irrelevant, it can be assumed that the information was relevant to the schema.

Eiser (1986) states that in general, schemas are resistant to change and schema-relevant information is attended to rather than information that is greatly discrepant from what is anticipated. Bodenhausen and Wyer (1985) maintain that simplifying information by attending to portions that are

congruent with what has been encountered in the past, occurs when a great deal of information needs to be processed. This has been demonstrated in a story related by Bandes (1996) of a judge who empathised with a defendant found guilty of shooting his wife dead after finding her in bed with another man. Upon handing down a sentence of only 18 months in jail to the defendant, the judge remarked, "I seriously wonder how many men married five, four years would have the strength to walk away without inflicting some corporal punishment" (p. 376). This statement illustrates that not even experienced judges are immune to the potential influence of biases such as empathy. As such, empathy may have acted as a schema biasing the judge's reasoning by influencing the focus on the evidence used to decide the sentence.

Fiske and Taylor (1991) claim that individuals "can have schemas for just about anything" (p. 121), and maintain that although assumed to be cognitive in nature, some schemas are emotionally laden with differing intensities. For instance, certain categories of people, such as crime victims, or events such as a murder trial, can trigger particular emotional reactions. A crime victim category may have sub-types such as a purse snatching victim, a stabbing victim, or a rape victim, and evaluation of relevant affective and cognitive information may take place at this level. Information relevant to a schema for the more general *crime victim* would therefore be evaluated differently to the *stabbing victim* sub-type. For example, attention directed toward affective information that is congruent with the stabbing victim, may focus on details such as the blood, the knife, the stab wound, and so forth. In accord with this view, Fiske (1982) and Leventhal and Scherer (1987) have suggested that a schema of an emotional episode can be activated by

encounters with similar events. The arousal of this type of schema, whether by an external or internal stimulus implies that cognitive (situation) and emotional (subjective) components are simultaneously activated. Fiske and Linville (1980) concur with the concept of schemas being both cognitive and affective which guides the processing of new information as well as the retrieval of previously stored information. While not all schemas require an affective component, Fiske and Linville stress that social schemas must link with affect. The processing of new information within a social schema, involves matching stimuli to prior experiences (Fiske, 1982). Thus, when this information is affectively laden, not only is it accessed more quickly than cognitive knowledge, but the affective intensity will differ between individuals, based on their prior experiences.

The literature reviewed thus far, has established that the combinations of cognition and affect vary in the constructs of empathy, sympathy, personal distress, and indifference. As schema theory also operates on the basis that a pre-existing schema can be both cognitive and affective in nature, it is argued that empathy and personal distress (as schemas) should direct attention toward schema-relevant information such as emotive rather than factual information in a murder trial. This results from the schemas of empathy and personal distress, being influenced by vengeance, an emotion-based motive.

Conversely, as sympathetic individuals are influenced by the reason-based justice motive, they should attend more to the schema-relevant factual evidence in a murder trial. Sympathy has been explained as being largely cognitive, and schematically congruent cognitive information should be processed (i.e., factual evidence, rather than emotive evidence). It is not

known what type of processing or information will be focused on by indifferent individuals.

4.3 *The Influence of Colour versus Black and White Photographs*

Another aim of this research is to examine the potential influence that colour and black and white photographs have on decision-making. Curridden (1990) maintains that the introduction of photographic and video taped crime scenes into trials has caused much contention in the American Legal System. A number of defence attorneys have claimed that such evidence is inflammatory and that the more heinous a crime scene, the higher the chance that the prosecution will win. Additionally, there are legal professionals (e.g., Pratt, 2001) who claim that video taped and photographic evidence speaks for the victim whose voice has been silenced by death.

The use of such trial exhibits in Australian Courts of Law is governed by Commonwealth and State Acts. The Evidence Act 1995 determines the conditions under which evidence may be inadmissible. The Act states that if the probative value of the evidence is outweighed by the prejudicial, confusing, or misleading nature of the evidence, or the evidence is deemed to be a waste of time, then the Court may decide to have it excluded (Office of the Queensland Parliamentary Counsel, 2003). Admissibility of evidence rests on the grounds that: 1) it provides additional support for the testimony of an expert witness; 2) it demonstrates the nature and magnitude of the victim's wounds; 3) it allows the jury to determine the veracity of related evidence; 4) that the weapon presented can be matched to the injuries inflicted; 5) to illustrate the intent of the defendant; and 6) it provides a way for the jury to tie evidence to theories proposed by the prosecution and defence (Douglas, Lyon, & Ogloff, 1997).

Theories proposed by opposing sides are often argued using supporting crime scene evidence such as photographs (Pratt, 2001). While photographs are an effective way to convey information about a crime, the impact that the evidence makes appears to be diluted somewhat by the use of black and white photographs. Indeed, Pratt maintains that colour photographs of homicide victims, are much more persuasive to juries than black and white photographs.

There is a dearth of research examining the persuasiveness of graphic evidence on verdicts and sentencing in murder trials. One study located was conducted by Kassin and Garfield (1991), which investigated a stabbing murder resulting from a dispute between two males. Participants were assigned to one of three groups. The *relevant* condition consisted of participants being shown a videotape of the deceased filmed by the police. Participants in the *non-relevant* condition were shown a videotape of the same victim but were told that it was not the victim of the trial under consideration. The control group did not view the videotape. All three groups equally found the crime to be violent, and the relevant and non-relevant groups rated the details of the crime as more graphic than the control group. No significant differences were found for the verdict between the three groups. However, participants who had watched the videotape viewed the defendant as more guilty on the probability-of-commission component when they were prosecution-biased rather than defendant-biased, than those who had not. Kassin and Garfield concluded that the presentation of graphic crime scene evidence appeared to reduce adherence to the rule of reasonable doubt, and influenced mock jurors to accept less proof to convict the defendant.

In another murder trial study, Douglas et al. (1997) used the case of a female who had been stabbed to death by her ex-boyfriend. The defendant argued he had been sick in bed on the day of the murder and witnesses were presented to partially support this claim. Opposing witnesses gave evidence that cast doubt on the defendant's innocence. Participants were presented with a trial transcript, and either black and white, or colour autopsy photographs along with a description of the victim's injuries by the medical examiner. A control condition was devoid of photographs, but participants were given the medical examiner's description of the injuries. A self-report measure of emotion was taken, which showed that participants were similarly affected whether the photographs were black and white, or colour. Participants reported feeling anxious, anguished, disturbed, and shocked. When asked whether participants had sweaty palms, a nervous stomach, or had difficulty in concentrating, almost half who had viewed the colour photographs agreed, approximately a quarter who had viewed the black and white photographs agreed, and a tenth of participants in the control condition agreed. Almost half of the participants in the colour condition, half of the participants in the black and white condition, and a quarter of participants in the control condition voted guilty. Interestingly, some participants reported strong reactions in the absence of the graphic photographs. Thus, it appears that another factor besides the graphic visual evidence was having an effect on decision-making.

This contention is in accord with the position argued in the current research that empathy, sympathy, personal distress, and indifference should be related to the focus on factual or emotive evidence, which in turn should be related to decision-making. As these emotions consist of differing levels

of affect and cognition, it is therefore possible that they act as schemas, directing attention toward the amount and type of information that is processed. That is, as empathy and personal distress have been associated with a vengeance motivation, and have been hypothesised to consist of high levels of affect, it is more likely that individuals experiencing these emotions will focus more on the emotive aspects of the crime, rather than the factual evidence. Conversely, as sympathy has been associated with a justice motivation, and is considered to be more cognitive in nature, the focus should be more on the factual rather than emotive evidence. It is not known what information that individuals who are indifferent will focus on.

The ratings of emotionality by participants who were presented with graphic crime scene evidence in research conducted by Douglas et al. (1997) revealed that colour photographs were more emotionally arousing than black and white photographs or the control condition. Further, the emotional state of the participants appears to have influenced whether the rule of reasonable doubt was obeyed, considering that witnesses for the defendant testified that he could not have committed the crime. This indicates that colour photographs have the potential to impact emotions, and thus the decision-making process.

To summarise, the present research argues that justice and vengeance motives should influence the emotions of empathy, sympathy, personal distress, and indifference. These emotions should influence whether emotive or factual information is attended to, which subsequently affects juror judgement (i.e., the volition, verdict, and sentence). This model of decision-making is presented in Figure 2 below. The influence that the presentation of either black and white or colour photographs has on decision-making has

produced conflicting findings (e.g., Douglas et al., 1997; Kassin & Garfield, 1991). The research by Douglas et al., however, indicated that colour photographs were more persuasive in decision-making and that individuals who viewed colour photographs appeared to be more emotionally aroused than those who viewed black and white photographs or no photographs. The decision-making model presented in Figure 2 will therefore, also be used to investigate decision-making when either black and white or colour photographs are presented.

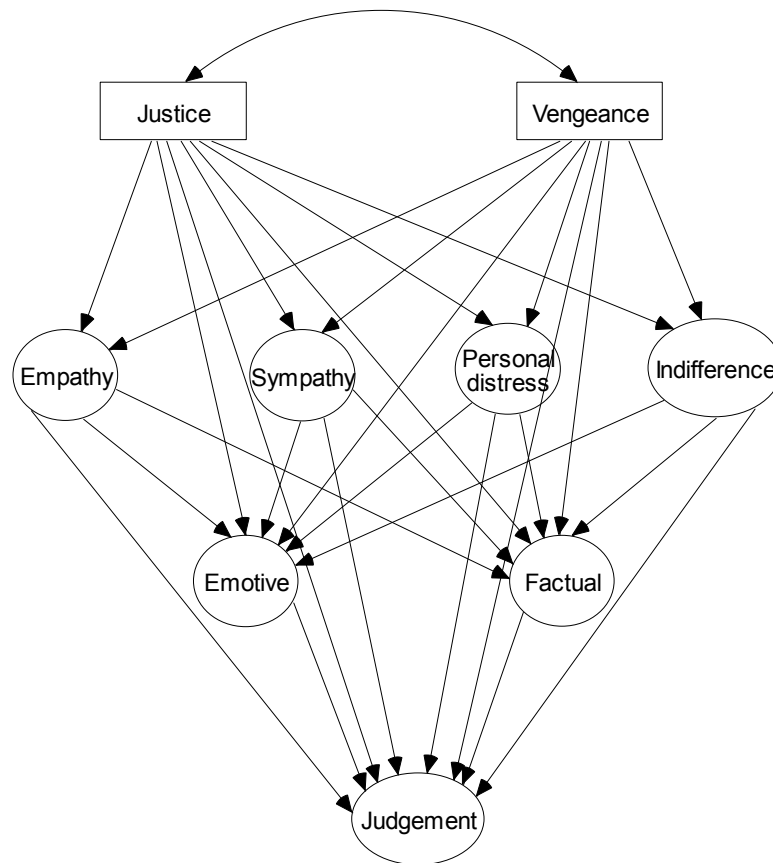


Figure 2. The Schema model showing the sequential ordering of decision-making variables with emotions preceding factual and emotive information leading to judgement.

4.4 *Alternative Scenario*

Posner (2001) has drawn attention to a possible second decision-making process. He concurs with the suggestion that the presentation of photographs into a trial depicting injury severity or demonstrating the amount of fear experienced by a victim can influence a jury to punish a defendant more harshly than if no such evidence is presented. In fact, Posner claims that the emotions provoked by scenes of a victim tend to make jurors view the defendant as more culpable and invokes the desire for vengeance to be inflicted for the sake of the victim. Posner also maintains that individual differences exist in the influence that highly emotive evidence (such as crime scene photographs) has on jurors. As such, jurors may view the photographic evidence as "a cognitive improvement brought about by increased information" (p. 3), or it may distract jurors from factual information, with jurors ignoring relevant information in decision-making. Posner has explained the differences in information processing as resulting from emotions being evoked in response to the focus on stimuli (such as evidence from the trial), which results in the focus on other stimuli (i.e., the photographic evidence) momentarily fading into the background somewhat, depending on the intensity of the emotion. In addition, Posner claims that individuals have "fixed attributes" or "preferred states of the world" (p. 6) which appear to be analogous to motives (e.g., justice and vengeance). Under certain conditions, stimuli may produce an emotional state and fixed attributes may or may not change as a result. Consequently, when emotional intensity abates, Posner argues that individuals often resort to their fixed attributes or preferred states, but they also have the ability to modify their

beliefs because of the relevance attached to their emotions. Therefore, some individuals' decisions are affected by their emotions, whereas others are aware of the potential influence of their emotions and will control for this by focusing on relevant stimuli.

Posner (2001) appears to be suggesting an alternative information processing strategy that involves the consideration of the factual and emotive evidence that evokes emotions, rather than emotions influencing the focus on factual or emotive evidence as proposed by Schema Theory. This possibility allows for the investigation of a second model of decision-making which predicts that justice and vengeance motives should be associated with factual or emotive information. Factual or emotive information should in turn, be associated with empathy, sympathy, personal distress, or indifference, which should be related to differences in juror judgement. Figure 3 presents this decision-making model. As with the model presented in Figure 2, the model in Figure 3 will investigate decision-making when black and white or colour photographs are presented. Posner's model proposes that justice and vengeance motivated individuals should in the first instance, focus on factual or emotive information, rather than experiencing emotional arousal initially. This decision-making process proposes that as participants are more focused on the factual and emotive information from the trial than their emotions, that they may recognise that the colour photographs have the potential to affect their decision-making. As such, the black and white photographs, being less emotionally arousing, could be considered as a "cognitive improvement" stressed by Posner (2001), and thus will be more facilitative of decision-making than colour photographs.

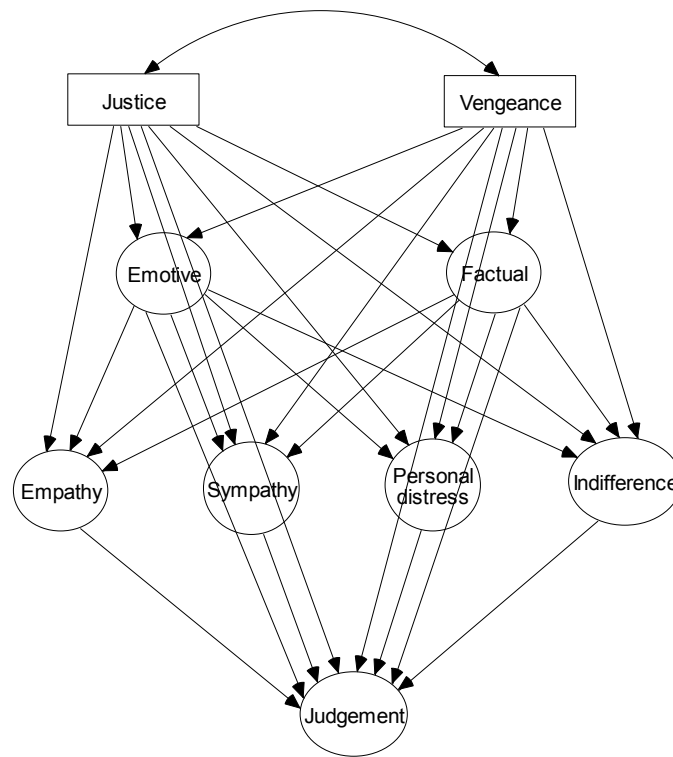


Figure 3. Posner's model showing the sequential ordering of decision-making variables with factual and emotive information preceding emotions leading to judgement.

4.5 Significance of Research Contribution/Utilisation of Results

Posner (2001) contends that legal and psychological enquiry has thus far tended to focus on cognition rather than emotion in criminal and civil proceedings. This research specifically focuses on the seemingly neglected area of emotions in a criminal trial. A scale to measure the emotions of empathy, sympathy, personal distress, and indifference will be generated and should be adaptable to other situations. To date, limited studies (Douglas et al., 1997; Kassin & Garfield, 1991) have examined the impact that trial exhibits such as videotapes and photographs have on juror decision-making.

Douglas et al., and Kassin and Garfield examined murder trials and presented colour, black and white, or no photographs; and videotaped evidence of the crime scene, respectively. As it is common practice to introduce such demonstrative evidence into criminal proceedings (Fishfader, Howells, Katz, & Teresi, 1996), this research is timely in examining the influence that crime scene photographs presented in either black and white or colour has on decision-making.

The indifference construct has not previously been researched in a trial context. Similarly, while the effect of emotions evoked by defendants has been researched, investigations into the influence of emotions aroused by a victim, (especially a deceased victim) on judgements are minimal. Research conducted into this area will be of pragmatic value to social psychology and to legal contexts. This research may potentially inform each area about the persuasiveness of emotional and cognitive information, the types of information that evoke an affective or cognitive response, and what decision-making strategies are utilised by justice and vengeance oriented jurors.

4.6 Research Aims

The principal aim of this research is to evaluate and compare two sequential models of decision-making in predicting juror judgement within a psychosocial-cognitive framework. The first model labelled the Schema model posits that justice and vengeance motives should be *directly* associated with the judgement rendered, and *indirectly* through emotions that subsequently induce either affective or factual processing of trial information. The second model labelled Posner's model proposes that justice and vengeance motives should be associated directly and indirectly with the

judgement rendered, through affectively based or cognitively based processing of trial information followed by emotions.

This objective will be achieved through three studies. In Study 1, the Empathy, Sympathy, Personal Distress, and Indifference Scale (ESPI Scale) will be developed, and the trial transcript assessed for ambiguity. Study 2 will involve two stages where an exploratory factor analysis of the ESPI Scale will be conducted, followed by reliability testing. The third stage will involve confirmatory factor analysis of the ESPI Scale, followed by validity testing of the subscales in Stage 4.

In Study 3 the two competing path models will be tested using Structural Equation Modelling (SEM). Multi-group analysis will be performed on both of the proposed models to firstly determine whether the pattern of structural relationships differ when the presentation of the photographs are in colour or black and white. The best fitting models will then be compared to determine which one appropriately represents the juror decision-making process.

A second aim of this research, therefore, is to investigate the direction and strength of relationships between all of the relevant decision-making variables in the two proposed models. The order of the variables in Posner's model is reversed to that of the Schema model (i.e., emotive and factual information, followed by the four emotions). The determination of which variables contribute to the decision-making process, and the associations between them will confirm the assertions developed in this dissertation. That is, determining the correct sequential ordering of the variables via the two models will aid understanding of the roles played by emotions and trial information on juror judgement in the context of a murder trial. From the

literature reviewed, several hypotheses were proposed to test the assumptions of this research.

4.7 Hypotheses

As previously argued, the constructs of empathy, sympathy, and personal distress have either been confused in meaning, or have overlapped with one another to some degree. A review of the literature, and in particular research by Sojka and Giese (1997) provided a basis to clarify the function and composition of these emotions. This enabled identification of a fourth construct which was labelled “indifference”. Where previous measures exist, there has been a tendency to assess the affective and cognitive aspects of these constructs as separate components. This research, however, established that empathy, sympathy, personal distress, and indifference appear to be combinations of both aspects, and thus each emotion is proposed to be uni-dimensional. As there do not appear to be measures in existence that were specifically designed to assess the cognitive aspects of these four emotions, this research will examine their correlations with each other, as well as correlations with three affective measures. These measures are the empathic concern subscale (EC-IRI) and the personal distress subscale of the Interpersonal Reactivity Index by Davis (PD-IRI; 1980), and the Reduced Emotional Intensity Scale (EIS-R) by Geuens and De Pelsmacker (2001).

Several hypotheses are proposed to assess the ESPI constructs as discrete emotions with differing affective and cognitive aspects (i.e., feeling as well as thinking). As empathy and personal distress have been proposed as being more affective than cognitive, a positive correlation is expected between these two constructs. As sympathy was promoted as being more

cognitive than affective, and indifference as having low affective and cognitive engagement, it is expected that empathy will be negatively correlated with these two constructs. A positive correlation is expected between sympathy and indifference due to the low affective involvement of each construct. In contrast, sympathy is expected to negatively correlate with personal distress as they are opposite in nature with respect to their affective orientation. It is also expected that personal distress will be negatively correlated with indifference due to their affective involvement being opposite in nature. Additionally, empathy and personal distress are expected to positively correlate with the EC-IRI, PD-IRI, and the EIS-R. Conversely, sympathy and indifference are expected to negatively correlate with the EC-IRI, the PD-IRI, and the EIS-R.

Research by Ho et al. (2003) has shown that justice and vengeance motives are not mutually exclusive in nature, but tend to correlate with either affective or cognitive elements in decision-making. The justice motive centred on the principle of fairness, is largely immune to emotional influence and ensures that justice is served. Conversely, the vengeance motive is emotion-driven reflecting a greater attitudinal preference for punishing the offender. As justice and vengeance motives have been found to play a crucial role in juror decision-making (Ho et al., 2003), it is predicted for the Schema model and for Posner's model, that these motives will be directly associated with the judgement rendered. Specifically, it is predicted that the justice motive should be negatively associated with the judgement rendered (i.e., a more lenient judgement as it is not as retribution-driven as vengeance). In contrast, it is expected that the vengeance motive should be

positively associated with the judgement rendered (i.e., a harsher judgement).

The Schema Model

The hypothesised sequential ordering of the proposed variables in the Schema model was based on the ELM incorporating Schema Theory. According to Schema Theory, judgement is arrived at by jurors attending to information which corresponds to existing schemas. This suggests that the type of emotion (or schema) that one is experiencing can determine whether emotive or factual information will be the subsequent focus. Information from the photographs and the trial transcript were utilised to develop the questions representing the emotive information and factual information variables, respectively. It is considered that a high recognition of either emotive or factual information is consistent with having focused predominantly on one of these types of information.

It is hypothesised, therefore, that in addition to the direct paths between the justice and vengeance motives and the judgement rendered, that there should be indirect associations that follow the theorised relationships developed in this dissertation. Thus, it is anticipated that being justice motivated should be associated with a lenient judgement through its associations with increased sympathy, decreased empathy, and decreased personal distress; and a lower recognition of emotive information, and a higher recognition of factual information.

For vengeance, it is expected that the indirect association with a harsher judgement should be through increased empathy, increased personal distress, and decreased sympathy; and a higher recognition of emotive information and a lower recognition of factual information.

As stated in the literature review, two possibilities exist when hypothesising the relationships between justice and vengeance and the judgement rendered through indifference, and emotive and factual information. Firstly, it was surmised that indifference could be justice motivated, and hence adhere to central information processing. This premise was based on justice being motivated by reason rather than emotion (Ho et al., 2003), and indifference similarly consisting of low affective involvement. As such, it is predicated that the justice motive should be associated with a lenient judgement through decreased indifference, which in turn should be associated with a higher recognition of factual information and a lower recognition of emotive information. Secondly, indifference may be vengeance motivated thus engaging peripheral information processing. It was established that vengeance motivated individuals employ the peripheral mode when ability or motivation are low, and simple, extraneous cues are the main focus (Petty et al., 1994). Similarly, indifference was equated with low motivation due to its low affective and cognitive involvement. Therefore, it is hypothesised that vengeance should be associated with a harsher judgement through increased indifference. Increased indifference in turn, should be associated with a higher recognition of emotive rather than factual information.

A further hypothesis to be tested is that the Schema model should provide a better fit to the data (i.e., a better representation of the decision-making process) for the colour photographs group than Posner's model. The rationale behind this prediction is Pratt's (2001) assertion that the presentation of colour photographs evokes strong emotions. Consistent with Schema Theory, these emotions then direct attention to the relevant trial

information influencing the judgement rendered (i.e., as presented in the preceding hypotheses).

Posner's Model

The posited sequential ordering of the proposed variables in the alternative model was based on the suggestion by Posner (2001) that individuals may respond to the information presented in a trial with emotions. Posner's model of decision-making hypothesises a reversal in the order of the indirect variables presented in the Schema model. It is expected, therefore, that justice and vengeance motives should be associated with the judgement rendered, both directly (as stated above) and indirectly. The anticipated indirect relationships suggest that at least part of the hypothesised associations between justice and vengeance and the judgement may be through the emotive and factual information variables, and consequently the four ESPI emotions. Specifically, it is hypothesised that being justice motivated should be associated with a lenient judgement through a higher recognition of factual information and a lower recognition of emotive information, which in turn should be associated with increased sympathy, decreased empathy, and decreased personal distress. Similar to the Schema model, it is also anticipated that the justice motive should be associated with a lenient judgement through a higher recognition of factual information and a lower recognition of emotive information, and decreased indifference.

The vengeance motive is hypothesised to be indirectly associated with a harsher judgement through a higher recognition of emotive information and lower recognition of factual information, which in turn should be associated with increased empathy, increased personal distress, and decreased

sympathy. Additionally, for vengeance motivated individuals, a higher recognition of emotive information and a lower recognition of factual information should in turn be associated with increased indifference, and thus a harsher judgement.

It is further anticipated that Posner's model should provide a better fit to the data for the black and white photographs condition than the colour photographs condition. This expectation was based on Pratt's (2001) claim that black and white photographs appear to be less emotionally arousing than colour which is consistent with the theme underlying Posner's model as previously discussed.

CHAPTER 5

Study 1 – Item Generation for the ESPI Scale and Development of the Trial Materials

5.1 Overview of Study 1

Study 1 was conducted in two stages with Stage 1 entailing (1) the identification of themes representing empathy, sympathy, personal distress, and indifference; and the authoring of items to represent the ESPI Scale, and (2) development of the murder trial transcript.

5.1.1 Stage 1

5.1.2 Identification of Themes for the ESPI Scale

As discussed previously, scales that ostensibly measure empathy are already in existence, but are either affective or cognitively oriented, rather than including both aspects. To date, no single scale has been designed to measure all four concepts of empathy, sympathy, personal distress, and indifference. The ESPI Scale was developed to take into account the varying levels of affect and cognition relevant to each construct.

The construction of statements reflecting the variables of empathy, sympathy, and personal distress will incorporate terminology extracted from research previously conducted. This terminology consistently recurs throughout research into the nature of empathy, sympathy, and personal distress, and reliably represents the intent of those constructs. For example, 10 terms extracted from the literature have associated empathy or imagining oneself in the other person's place, with: (1) being sad (Eisenberg, 2000); (2) feeling the person's pain (Preston & de Waal, 2002); (3) feeling emotional (Davis, 1983); (4) being emotionally involved (Mehrabian & Epstein, 1972);

(5) feeling dejected; (6) sorrowful; (7) low-spirited; (8) downhearted; (9) downcast; and (10) heavy hearted (Fultz et al., 1988). Sympathy may also be personified by 10 terms including: (1) feeling sympathetic; (2) moved; (3) compassionate; (4) tender; (5) soft hearted (Batson et al., 1983); (6) pity; (7) concern (Eisenberg, et al., 1988); (8) wanting to comfort or help, and to alleviate another's suffering or sorrow (i.e., benevolence) (Haidt, 2003); (9) feeling sorry; and (10) feeling badly (Eisenberg & Strayer, 1987).

Personal distress appears to encompass a broader descriptive nomenclature with 15 terms including being: (1) ill at ease (Davis, 1980); (2) alarmed; (3) grieved; (4) worried; (5) disturbed; (6) distressed; (7) troubled; (8) perturbed (Fiske, 2004); (9) uneasy (Fultz et al., 1988); (10) vulnerable; (11) uncertain; (12) fearful (Davis, 1983); (13) and with feeling apprehensive; (14) nervous; and (15) scared (Eisenberg et al., 1988).

There are no terms apparent from the literature that measure the construct of indifference, which according to Reber (1995) is a state of neutrality, exhibiting no preference between alternatives or courses of action. As such, the following 12 terms were taken from Roget's Thesaurus (Dutch, 1982): (1) unconcerned, (2) disinterested, (3) neutral, (4) uninvolved, (5) dispassionate, (6) apathetic, (7) unimpressed, (8) unresponsive, (9) unmoved, (10) not caring, (11) unaffected, and (12) indifferent.

5.1.3 *Authoring of Items to Reflect the Themes*

The authoring of the items for the ESPI Scale involved the researcher writing statements for the four constructs of empathy, sympathy, personal distress, and indifference utilising the aforementioned 47 terms. Each item was written to be consistent with the cognitive and affective natures of the four constructs. According to Hoffman (1982), empathy is primarily an

affective experience that involves the apprehension or comprehension of another's emotional experience. Cognitive processing in empathy is considered to be relatively shallow and has been proposed by Hoffman (1984b) as involving the ability to perspective or role take. The items written to tap into empathy all began with the response stem "I felt ..." which reflects the affective component. Following this stem, each item was written with 1 of the 10 affective terms extracted from the literature that have been associated with empathy. The cognitive component of perspective/role taking was reflected in the end stem of "when I imagined myself in the other person's place". An example of an item measuring empathy, therefore, is "I felt emotionally involved when I imagined myself in the other person's place".

The affective component of sympathy relates to an emotional response resulting from the comprehension or understanding of the emotional state or situation of another person (Eisenberg, 2000; Hoffman, 1987). Additionally, Escalas and Stern (2003) asserted that sympathisers maintain some emotional distance, allowing cognition to predominate. Items written to reflect the affective component of sympathy all began with the response stem "Feeling ...", which was followed by 1 of the 10 affective terms associated with sympathy located in the literature review. The end stem was designed to reflect the emotional distance or cognitive component and was worded "about the other person's experience did not cloud my thoughts". An example of an item tapping sympathy is "Feeling moved about the other person's experience did not cloud my thoughts".

Personal distress has been established as being equally high in cognition and affect. This emotion, however, is self-focused rather than directed toward the apprehension or comprehension of the other person's

experience. Therefore, the experience of this emotion results in self-focused emotional and cognitive discomfort (Eisenberg et al., 1989). Items written to reflect personal distress were worded with a response stem of “I tended to focus on how ...”, followed by 1 of the 15 affective terms taken from the personal distress literature. The end stem reflected the self-focused direction of personal distress and was worded “I felt rather than the other person’s experience”. An example of an item written to tap personal distress was “I tended to focus on how uneasy I felt rather than the other person’s experience”.

The final construct of indifference is analogous to Sojka and Giese’s (1997) concept of passive processing. According to Sojka and Giese, passive processing (and hence indifference) is low in both affective and cognitive involvement. The 12 terms extracted from Roget’s Thesaurus (Dutch, 1982) characterising the concept of indifference reflect the affective component. The response stem of each item began with “I felt ...”, and the end stem was “when I thought about the other person’s experience”. The end stem reflects the cognitive component, as logically to be indifferent requires a target individual to be indifferent about or toward. An example of an indifferent item is “I felt unconcerned when I thought about the other person’s experience”.

The item pool was then evaluated and refined by four academic psychologists from the School of Psychology and Sociology at Central Queensland University. The psychologists were informed of the four emotion themes and asked to place each item into the best corresponding representational category. Any disparity in the grouping of the items was resolved by a fifth psychologist. Based on the review process, all 47 items

were included in the ESPI Scale and presented in random order (see Appendix A).

5.1.4 Trial Materials

The trial transcript was based on *R v Ames* (an actual trial which took place in New South Wales in 1964). The transcript was modified so that the evidence presented was ambiguous, and the names of the people involved in the case were changed to preserve their privacy (see Appendix B). For instance, key evidence concerning fingerprints was omitted. The underlying rationale for the ambiguous nature of the trial was to prevent the evidence from being overwhelmingly in favour of the victim (i.e., there was reasonable doubt). The transcript was rated as adequately ambiguous by three psychologists in the legal psychology arena from the School of Psychology and Sociology at Central Queensland University, Rockhampton.

The trial concerned a defendant who had been arrested for murdering his wife by cutting her throat. After the initial injury was inflicted, the victim ran out the back door of the marital home, but it was alleged that her husband dragged her back inside and killed her by cutting her throat a further two times. The defendant maintained his innocence by insisting that her death was due to suicide. The crime scene photographs used in this research were reproduced by a special effects artist (Angel Eye Effects) located in Brisbane based on descriptions given in the transcript. Photographs were used in the original case to support the prosecution's contention that the death of the victim could not possibly have been attributed to suicide.

CHAPTER 6

Study 2 – Development of the ESPI Scale

6.1 *Overview of Study 2*

Study 2 consisted of 4 stages. Stage 1 involved conducting exploratory factor analysis on the 47-item ESPI Scale in order to identify its factor structure. Stage 2 involved conducting reliability analysis on the identified ESPI Scale factors in order to enhance each factors' internal consistency. Stage 3 employed confirmatory factor analysis to confirm the factor structure of the ESPI Scale identified via exploratory factor analysis. Finally, Stage 4 involved testing the validity of the ESPI Scale via convergent validity analysis. Data analyses were performed using the Statistical Package for the Social Sciences (SPSS), Version 13 for Windows. The confidence level was set at the conventional alpha level of .05.

6.1.1 *Method*

6.1.2 *Participants*

The participants were members of the general population, recruited from the eight States and Territories of Australia. The Central Queensland University Population Research Centre produced a randomised proportional sample of names and addresses to which 7,000 invitations to complete the survey were mailed. The sample size for each State or Territory was approximately .034% of the population size. All States, excluding the Australian Capital Territory, were categorised by capital city and then by the rest of the State, which consisted of all other non-capital city areas within the State. The result of this proportional sampling is presented in Table 1. Population sizes for each State were accessed from the Australian Bureau of Statistics (ABS) website.

Table 1

Sample Breakdown within States

Location	Population	% State	Sample Size
Australian Capital Territory	325,800	1.60	112
New South Wales – Sydney	4,198,543	61.85	1,442
New South Wales – Rest of State	2,589,257	38.15	889
Victoria – Melbourne	3,366,542	66.82	1,156
Victoria – Rest of State	1,671,158	33.18	574
Queensland – Brisbane	1,627,535	40.88	559
Queensland – Rest of State	2,353,265	59.12	808
South Australia – Adelaide	1,072,585	69.44	369
South Australia – Rest of State	472,115	30.56	162
Tasmania – Hobart	195,800	40.28	67
Tasmania – Rest of State	290,200	59.72	100
Northern Territory – Darwin	109,419	53.72	37
Northern Territory – Rest of State	94,281	46.28	32
Western Australia – Perth	1,339,993	66.38	460
Western Australia – Rest of State	678,707	33.62	233
TOTAL			7,000

The total sample for study 2 consisted of 405 participants (Appendix C), thus the overall return rate for the survey was 5.8%. Of the participants, 256 indicated they were from Queensland, representing a response rate of 18.73% to the 1,367 invitations sent. Fifty-two participants were from New South Wales, representing a response rate of 2.23% from a sample size of 2,331. Thirty-two participants were from Victoria, which is a response rate of 1.85% from a sample size of 1,730. Twenty participants were from Western

Australia, which is a response rate of 2.89% from a sample size of 693. Nineteen participants were from South Australia, indicating a response rate of 3.58% from a sample size of 531. Eleven were from the Australian Capital Territory, which is a response rate of approximately 10% from a sample size of 112. Ten were from Tasmania, which is a response rate of 5.98% from a sample size of 167, and 5 were from the Northern Territory, which is a response rate of 7.25% from a sample size of 69. The majority of participants were from Queensland and the least number of participants resided in Victoria. The non-representativeness of the sample indicates that caution must be taken when generalising the findings of the study to the wider population. Table 2 presents a summary of the age, gender, education level, occupational category, and income distribution of the participants.

Table 2

Demographic Information of Participants in Study 2

	%	<i>n</i>
Age		
18-25 years	21.2	86
26-35 years	22.7	92
36-45 years	24.7	100
46-55 years	16.5	67
56-65 years	10.4	42
66 years and over	4.4	18
Gender		
Male	32.8	133
Female	67.2	272
Education		
Primary to year 8	3.2	13
Years 9-10	12.3	50
Years 11-12	26.2	106
Technical/Trade	12.1	49
University/Other higher education	46.2	187
Income		
Less than \$10,000	17.3	70
\$10,001-\$20,000	19.0	77
\$20,001-\$30,000	13.8	56
\$30,001-\$40,000	13.1	53
\$40,001-\$50,000	10.6	43
\$50,001-\$60,000	7.9	32
\$60,001 or more per year	18.3	74
Occupation		
Unskilled or semi-skilled worker	14.3	58
Skilled blue-collar worker with apprenticeship or similar training	6.9	28
Clerical, low-level administration, low-salary skilled white collar worker	12.8	52
Small business employer, self-employed, non-executive administrator in a large company or middle-level public servant	14.3	58
Professional	27.7	112
Employer of more than 10 people, executive in organisation greater than 100 or senior public servant	2.7	11
Unemployed/student/retired	21.2	86

The demographics show that the majority of respondents (24.7%) were aged 36 to 45, followed by 22.7% in the 26 to 35 age group, 21.2% in the 18 to 25 age group, 16.5% in the 46 to 55 age group, 10.4% in the 56 to 65 age group, and 4.4% aged 66 years or over. The ABS (2005a) reported that the group with the highest number of people across all States of Australia was aged from 30-34. Data obtained for this study may therefore be slightly under-represented with regard to this particular age group.

With respect to gender, the ABS (2005b) reported that the ratio of males to females across all States of Australia was 99 to 100. The present sample consisted of 133 males (32.8%) and 272 females (67.2%), which clearly shows that females are over-represented.

The annual income earned by the majority of respondents in the present sample was between \$10,001 and \$20,000 (19.0%), followed by 18.3% in the \$60,001 and over level. It was reported by the ABS (2006) that the approximate average annual income of residents across Australian States and Territories was \$41,064. In the present sample, only 10.6% of participants reported this level of income, and were thus under-represented.

Almost 46.2% of respondents had a university or other higher level of education, followed by 26.2% of respondents reporting years 11-12 as their highest level of education. Occupational categories in this study revealed that the majority of respondents (27.7%) were employed as professionals. The second highest category was for those respondents who reported their occupation as unemployed/student/retired (21.2%). According to the ABS (2006), the majority of people (31.3%) across all States and Territories of Australia reported their occupation as that of an associate professional or professional, with the second highest occupational group classified as low-

level administrative or clerical worker (26.5%). Comparisons between the data from this study and those of the ABS indicate that these groups appear to be well represented. Overall, the sample obtained does not appear to be representative of the Australian population as a whole. Therefore, caution must be taken when generalising the study's findings to the wider population.

6.1.3 Materials

Participants for Study 2 completed a questionnaire consisting of six sections (Appendix D). Section one consisted of seven questions written to elicit demographic information about the participants' gender, age, education level, annual income, occupation, nationality, and residence by Australian State or Territory.

Section two consisted of two subscales from the Interpersonal Reactivity Index (IRI) developed by Davis (1980). The first subscale measures personal distress and is operationalised by seven items, with each item being rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of these items is "In emergency situations, I feel apprehensive and ill-at-ease". Of the seven items, two items were reverse scored. The second subscale contains seven items written to measure the affective component of participants' empathic concern. An example of empathic concern is "I often have tender, concerned feelings for people less fortunate than me". Each item was rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Of the seven items, three were reverse scored. For both subscales, high scores indicated high personal distress and high empathic concern.

Section three included the reduced Emotional Intensity Scale (EIS-R) developed by Geuens and De Pelsmacker (2001). The EIS-R consists of 17

items which assess participants' levels of emotional intensity in response to a variety of emotional situations. According to Bachorowski and Braaten (1993), each item assesses the usual or typical intensity felt when experiencing emotion, but does not measure the frequency of emotion. Each item is measured by selecting one of five choices that range from 1 (low intensity) to 5 (high intensity). Scoring involves summing the scores after correcting for 5 reverse scored items. Of the 17 items, 9 are associated with positive emotions (e.g., "Someone compliments me. I feel "), and 8 relate to negative emotions (e.g., "Someone criticises me. I feel"). High scores on this scale reflect high emotional intensity.

Section four consisted of the trial transcript and photographs, with instructions that participants read through the transcript at their own pace, and then peruse each photograph. Section five then asked the participant to render a verdict, indicate the degree of the volition of the defendant, and recommend a sentence length; these measures represent the dependent variable of judgement in this study. Verdict was measured as 1 (not guilty), 2 (guilty of murder – manslaughter), 3 (guilty of murder). Volition (i.e., the degree that the defendant intended murdering the victim) was rated from 1 (strongly disagree), 2 (moderately disagree), 3 (barely disagree), 4 (barely agree), 5 (moderately agree), to 6 (strongly agree). Sentence recommendation was operationalised as 1 (0 years), 2 (1-5 years), 3 (6-10 years), 4 (11-15 years), 5 (16-20 years), 6 (life), and 7 (death penalty). The higher the verdict, volition, and sentence, the harsher the judgement.

Section six presented the 47 items written for the EPSI Scale in Study 1 of this research. The ESPI Scale can be modified to suit the specific situation under investigation. As such participants were provided with

instructions to answer the questions with respect to the victim in the transcript. Each item was to be rated on a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). These items were all written in the same direction and a total score was derived by summing the scores for each subscale. High scores on each subscale indicated endorsement of empathy, sympathy, personal distress, or indifference.

6.1.4 Procedure

Participants were informed that the purpose of the study was to investigate decision-making in the context of a criminal trial and were warned that gruesome photographs would be presented as part of the evidence in the trial. On the information page preceding the questionnaire, several counselling agencies and contact details were recommended for those participants who experienced negative sequelae from filling in the study's questionnaire. Two participants expressed their unwillingness to view the photographs and thus withdrew from the study. There were no reports of distress experienced on the part of the remaining participants.

All participants were advised prior to the start of sessions that (1) the questionnaire would take approximately 30 minutes to complete, (2) participation was entirely voluntary, and (3) of the right to withdraw from the study at any time without penalty. In addition, participants were told that the Informed Consent Form would not be associated with the data, ensuring both their anonymity and the confidentiality of their responses. Participants were further informed that if they wished to withdraw from the study, that their data would be destroyed. An assurance was also given that any data gathered as part of this research and any resulting publication would not identify any individual in any way. It was explained to participants that responses to the

questionnaire would be coded and therefore recorded anonymously, and any communications (written or oral) would likewise remain anonymous.

6.1.5 Results

Missing Data

According to Byrne (2001), missing data has the ability to bias conclusions derived from empirical research, and as such they must be appropriately dealt with prior to any analysis taking place. Enders (2003) proposed three solutions to the problem of missing data: (a) listwise deletion which involves discarding cases with missing values; (b) pairwise deletion where each covariance term is produced using all available cases; and (c) expectation maximisation, a two step imputation method that performs a series of regression equations in the expectation step, followed by a maximum likelihood estimation of parameters in the maximisation step. Data screening of the variables in this stage of the research indicated that missing data occurred in 2% of cases, and was missing completely at random. For this type of missing data, Enders suggested using the expectation maximisation method as it has been found to be superior to listwise or pairwise deletion, resulting in a covariance matrix that is unbiased and which approximates estimates obtained from normal data. The expectation maximisation method was therefore employed in this stage of the research, and all missing data was replaced with estimated parameter values.

6.2 Stage 1 - Exploratory Factor Analysis of the ESPI Scale

Of the sample of 405 participants, 202 cases were randomly selected (150 females and 52 males) for the exploratory factor analysis (EFA) stage of the study to examine the factor structure of the ESPI items. Participants'

responses to the 47 items of the ESPI Scale were initially subjected to a principal components analysis with varimax rotation. Bartlett's Test of Sphericity was significant, $\chi^2 (df = 1,081) = 14,447.24, p < .001$, which indicates that the correlation matrix contained a significant number of correlations between the variables, and is thus suitable for factor analysis. Five factors were produced with eigenvalues greater than 1.00, accounting for 64.39% of the variance (see Appendix E). These five factors accounted for 30.87%, 18.78%, 7.59%, 4.55%, and 2.44% of the scale's variance respectively. Although these results, together with the scree plot suggested a five factor solution, there were several cross loadings, and only four of the factors were theoretically meaningful. As such, a second EFA with oblique rotation was conducted, in which four factors were extracted. Oblique rotation of the factors was employed as the factor correlation matrix indicated that these four factors are correlated (i.e., all four factors are measures of emotion). The four-factor solution converged in eight iterations, and explained 63.65% of the variance (Appendix F). Examination of the items that loaded on these four factors indicated that factor 1 consisted entirely of items that reflected personal distress, accounting for 31.06% of the variance. Factor 2 consisted of items reflecting indifference, accounting for 19.45% of the variance. Factor 3 consisted of items reflecting sympathy accounting for 8.05% of the variance, and factor 4 consisted of items reflecting empathy accounting for 5.09% of the total variance. Four items cross-loaded on Factor 2 (indifference) and Factor 4 (empathy) and were deleted. These four items were "I felt neutral when I thought about the other person's experience", "I felt apathetic when I thought about the other person's experience", "I felt unmoved when I thought about the other person's

experience”, and “I felt unaffected when I thought about the other person’s experience”.

The remaining 43 items were subjected to another EFA with a four factor solution specified. These four factors accounted for 64.62% of the variance (Appendix G). Factor 1 which reflected “personal distress”, accounted for 32.61% of the variance. Factor 2 which reflected “indifference” accounted for 18.15%. Factor 3 which reflected “sympathy” accounted for 8.74%, and Factor 4 which reflected “empathy” accounted for 5.12%. Table 3 presents these four factors together with their eigenvalues and percentage of variances explained.

Table 3

Eigenvalues and Variance Accounted for by the Four Factors of the ESPI Scale

Factor	Eigenvalue	% of Variance	Cumulative %
1 – Personal Distress	14.02	32.61	32.61
2 – Indifference	7.80	18.15	50.76
3 – Sympathy	3.76	8.74	59.50
4 – Empathy	2.20	5.12	64.62

6.3 Stage 2 – Reliability Analysis

In order to assess the internal consistency of the items representing the four factors of the ESPI Scale, the 43 items representing these four factors were item analysed and Cronbach’s alphas were calculated (Appendix H). Table 4 presents the ESPI Scale items together with their factor loadings, corrected item-total correlations, and Cronbach’s alphas for the four factors.

Table 4

*Factor Loadings, Item-Total Correlations, and Alphas for the ESPI Scale**(N = 202)*

Factor		Factor Loadings	Item-Total Correlations
1. Personal Distress			
PD1	I tended to focus on how alarmed I felt rather than the other person's experience	.77	.79
PD2	I tended to focus on how grieved I felt rather than the other person's experience	.66	.75
PD3	I tended to focus on how worried I felt rather than the other person's experience	.77	.70
PD4	I tended to focus on how disturbed I felt rather than the other person's experience	.85	.80
PD5	I tended to focus on how distressed I felt rather than the other person's experience	.88	.85
PD6	I tended to focus on how troubled I felt rather than the other person's experience	.81	.77
PD7	I tended to focus on how perturbed I felt rather than the other person's experience	.83	.74
PD8	I tended to focus on how uneasy I felt rather than the other person's experience	.77	.74
PD9	I tended to focus on how vulnerable I felt rather than the other person's experience	.71	.72
PD10	I tended to focus on how uncertain I felt rather than the other person's experience	.65	.61
PD11	I tended to focus on how fearful I felt rather than the other person's experience	.82	.85
PD12	I tended to focus on how apprehensive I felt rather than the other person's experience	.82	.78
PD13	I tended to focus on how nervous I felt rather than the other person's experience	.77	.72
PD14	I tended to focus on how scared I felt rather than the other person's experience	.55	.59
PD15	I tended to focus on how ill at ease I felt rather than the other person's experience	.83	.75
		Alpha	.95
2. Indifference			
I1	I felt unconcerned when I thought about the other person's experience	.76	.80
I2	I felt disinterested when I thought about the other person's experience	.75	.68
I4	I felt uninvolved when I thought about the other person's experience	.55	.57
I5	I felt dispassionate when I thought about the other person's experience	.78	.75
I7	I felt unimpressed when I thought about the other person's experience	.71	.49
I8	I felt no response when I thought about the other person's experience	.80	.80
I10	I felt indifferent when I thought about the other		

I11	person's experience	.59	.62
	I felt I did not care when I thought about the other person's experience	.83	.83
		Alpha	.90
<hr/>			
3.	Sympathy		
S1	Feeling sympathetic about the other person's experience did not cloud my thoughts	.81	.81
S2	Feeling compassionate about the other person's experience did not cloud my thoughts	.63	.66
S3	Feeling moved about the other person's experience did not cloud my thoughts	.77	.72
S4	Feeling tender about the other person's experience did not cloud my thoughts	.82	.78
S5	Feeling soft-hearted about the other person's experience did not cloud my thoughts	.83	.73
S6	Feeling pity about the other person's experience did not cloud my thoughts	.77	.72
S7	Feeling concern about the other person's experience did not cloud my thoughts	.78	.72
S8	Feeling benevolent about the other person's experience did not cloud my thoughts	.65	.62
S9	Feeling sorry about the other person's experience did not cloud my thoughts	.84	.78
S10	Feeling badly about the other person's experience did not cloud my thoughts	.81	.80
		Alpha	.93
<hr/>			
4.	Empathy		
E1	I felt sad when I imagined myself in the other person's place	.77	.73
E2	I felt pained when I imagined myself in the other person's place	.75	.74
E3	I felt emotional when I imagined myself in the other person's place	.70	.75
E4	I felt emotionally involved when I imagined myself in the other person's place	.74	.71
E5	I felt dejected when I imagined myself in the other person's place	.79	.75
E6	I felt sorrowful when I imagined myself in the other person's place	.79	.81
E7	I felt low-spirited when I imagined myself in the other person's place	.78	.80
E8	I felt downhearted when I imagined myself in the other person's place	.89	.84
E9	I felt downcast when I imagined myself in the other person's place	.82	.74
E10	I felt heavy-hearted when I imagined myself in the other person's place	.80	.83
		Alpha	.94

From Table 4, it can be seen that the corrected item-total correlations for all 43 items are high (range .49 to .85) which indicates that the items are highly consistent with the factors they were written to represent. Cronbach's alphas for all four factors are also very high (range .90 to .95) indicating that all four factors are highly internally consistent, i.e., they are reliable.

6.4 Stage 3 - Confirmatory Factor Analysis

In order to confirm the four-factor structure of the ESPI Scale identified in the exploratory factor analysis stage, confirmatory factor analysis (CFA) via structural equation modelling (SEM) was conducted on the remaining 203 cases that comprised the second half of the sample (81 males and 122 females). The specific purpose of the CFA was to test the goodness-of-fit of the derived factor structure, and in particular, the reliability of the factor loadings of the measurement items.

Ho (2006) described SEM as involving a two-step process, beginning with (1) the creation of a measurement model, and (2) the testing of a structural model that represents the latent variables and posited relationships between all the variables in the study. The measurement model essentially performs the same function as CFA and tests that the selected indicator variables (or items on a scale) reliably represent the latent variables (or constructs) of the study. A number of measures are consulted to determine the adequacy of the model fit, including the absolute fit measures, incremental fit measures, and parsimonious fit measures.

Absolute Fit Measures

Absolute fit measures include the likelihood ratio χ^2 statistic, the goodness-of-fit index (GFI), and the root mean square error of approximation (RMSEA). In SEM, a non-significant χ^2 is desirable as it indicates a good

overall fit between expected covariances in the measurement model, and the observed covariances in the data (Ho, 2006). The χ^2 statistic is sensitive to large sample sizes, often resulting in a significant χ^2 value being produced regardless of the adequacy of the posited model. Consequently, the use of a sufficiently large sample will result in the rejection of any reasonable model when fit is assessed utilising the χ^2 statistic. This limitation has been addressed through the development of additional goodness-of-fit indices which can be used in conjunction with the χ^2 statistic to assess the fit of a model to a data set (Byrne, 2001; Tabachnick & Fidell, 2001).

The GFI examines the hypothesised model fit against no model at all, while minimising any sample size effects (Tabachnick & Fidell, 2001). The GFI is a non-statistical measure ranging from 0 indicating a poor fitting model, to 1 which is a perfect fitting model.

The third absolute fit measure is the RMSEA, defined by MacCallum, Browne, and Sugawara (1996) as an estimate of the goodness-of-fit expected in the population, rather than the sample drawn for estimation. Acceptable values for the RMSEA range from .05 to .08, mediocre values range from .08 to .10, and poor fit is indicated by values greater than .10.

Incremental Fit Indices

The second set of measures used to determine goodness-of-fit are the incremental fit indices, which includes the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Incremental Fit Index (IFI), Relative Fit Index (RFI), and the Normed Fit Index (NFI). These indices fit the hypothesised model (the default model) against a highly and unrealistically constrained model that assumes the measurement items are completely independent of each other (the independence or null model) (Ho, 2006). The CFI, TLI, IFI,

RFI, and NFI range from 0 (a fit which is no better than the independence model) to 1 (a perfect fit) (Ho, 2006). Hair, Anderson, Tatham, and Black (1998) recommend a threshold of .90 or higher as being desirable for the goodness-of-fit indices as this indicates a 90% improvement of the hypothesised model over the independence model. In other words, the only possible improvement in fit of the hypothesised model is 10% or less.

According to Marsh, Hau, and Wen (2004), while a threshold of .90 may be the conventional acceptable cut-off value for model fit, values less than .90 may also be acceptable, as ultimately model fit depends on consideration of the theoretical basis relevant to the specific study under investigation.

Parsimonious Fit Measures

The third criterion used to evaluate the goodness-of-fit of models relies on the concept of parsimony, and is used to determine whether model fit has been achieved by the overfitting of the data with too many coefficients. The parsimonious fit measures consist of the Parsimonious Normed Fit Index (PNFI) and the Akaike Information Criteria (AIC). The PNFI takes into consideration the number of degrees of freedom used to fit the model. The primary purpose of the PNFI is to enable the comparison of models with different degrees of freedom. Higher PNFI values are sought. While no threshold of an acceptable PNFI value has been determined for use in the comparison of models, differences between .06 and .09 tend to be accepted as indicating the existence of substantial differences between models (Williams & Holahan, 1994). The AIC assists in comparing non-nested models. The adequacy of a non-nested model over another one is determined by the model with the smallest AIC value, which has the smallest χ^2 value obtained with fewer estimated coefficients (Ho, 2006).

Assessment of the Model

In assessing the adequacy of a hypothesised model, three types of information are systematically examined (Ho, 2006). The first of these are the parameter estimates which should have the appropriate positive or negative sign according to the proposed theory. The squared multiple correlations provide the amount of variance accounted for in the measurement variables by their representative latent factors and are a measure of the strength of the linear relationship between each measurement variable and its latent construct in the model. The second type of information to be examined includes the absolute fit measures, incremental fit measures, and parsimonious fit measures discussed previously. Thirdly, misspecification in the model can be determined by examination of the residuals, relative residuals, standardised residuals, the modification indices, and the expected change. These measures are also used to modify the model to achieve a better fit.

6.4.1 Confirmatory Measurement Model for the ESPI Scale

Confirmatory factor analysis was conducted on the ESPI Scale to confirm the factor structure identified via exploratory analysis, and to test that the chosen measurement items reliably represent the latent variables. A measurement model was posited consisting of the four latent variables of empathy, sympathy, personal distress, and indifference based on the four factors identified via exploratory factor analysis. Ho (2006) asserts that confirming the fit of the measurement model prior to testing the structural model (which contains all the variables of the study) is crucial, as a poor fit to the data at the CFA stage would indicate that the underlying structure of the latent variables is incorrect or inappropriate. At this stage, a measurement

model with poor fit would prevent analysis of the structural model from proceeding.

6.4.2 Item Parcelling

The measurement model employed item parcels rather than individual items as indicators for the four latent variables of (1) empathy, (2) sympathy, (3) personal distress, and (4) indifference. According to Russell, Kahn, Spoth, and Altmaier (1998), item parcelling in latent variable analysis is recommended for three main reasons. Firstly, item parcelling reduces the likelihood of individual item responses violating the assumptions of multivariate normality underlying maximum likelihood estimation in structural equation models. Secondly, item parcelling reduces the number of parameters to be estimated in the model. Thirdly, item parcelling resolves anomalies that can be produced by individual items. Advantages of using item parcelling instead of individual items include a simpler and therefore, more parsimonious model due to fewer parameters needing to be estimated, and thus improving the overall fit of the data to the model.

To create item parcels to represent latent constructs, Russell et al. (1998) suggest rank ordering items from the lowest to the highest based on the corrected item-total correlations produced from reliability analysis. Thus, for each latent construct, measurement items with low item-total correlations and items with high item-total correlations are grouped together, and so on until all parcels contain an equivalent level of high and low item-total correlations.

Empathy

Based on the procedure described above, the latent variable of empathy was represented by three item parcels. The first parcel (E_P1)

contained the summation of the means of three items (E4, E3, and E10). The second parcel (E_P2) contained the summation of the means of three items, E1, E5, and E6. Similarly, the third parcel (E_P3) contained the summation of the means of four items E2, E7, E8, and E9.

Sympathy

Three parcels were created for the latent variable of sympathy by summing the means of the items in each parcel. The first parcel labelled S_P1 contained the summation of the means of three items, S8, S7, and S10. The second parcel labelled S_P2 contained the summation of the means of three items, S2, S5, and S9. The third parcel labelled S_P3 contained the summation of the means of four items, S3, S4, S1, and S6.

Personal Distress

The latent variable of personal distress was represented by three parcels, with each containing five items, the means of which were summed to produce each parcel. The first parcel labelled PD_P1 contained the summation of the means of five items, PD14, PD9, PD15, PD12, and PD4. The second parcel labelled PD_P2 contained the summation of the means of five items, PD10, PD8, PD2, PD6, and PD1. The third parcel labelled PD_P3 contained the summation of the means of five items, PD3, PD13, PD7, PD11, and PD5.

Indifference

The latent variable of indifference was represented by three parcels, with two parcels containing three items, and one parcel consisting of two items. The parcels were produced by summing the means of the respective items. The first parcel labelled I_P1 contained the summation of the means of three items, I2, I7, and I11. The second parcel labelled I_P2 contained the

summation of the means of three items, I4, I8, and I10. The third parcel labelled I_P3 contained the summation of the means of two items, I1 and I5.

Figure 4 presents the posited measurement model with the four latent constructs and their associated measurement item parcels. For the model, all factor loadings were freed, measurement items were allowed to load on one latent variable only, and the four latent variables were allowed to correlate.

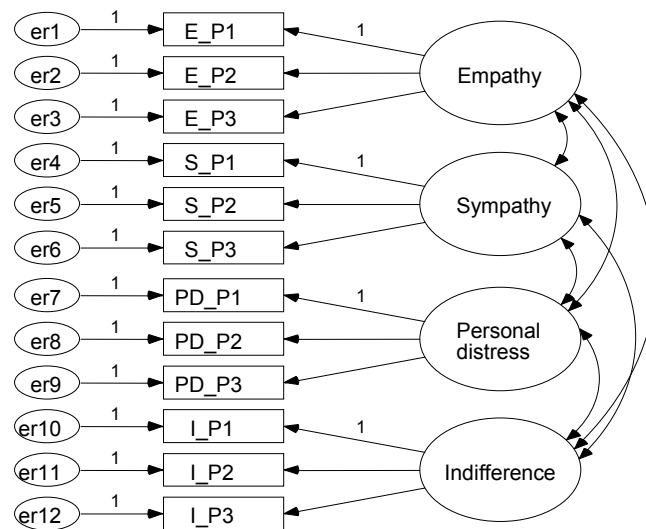


Figure 4. Measurement model for the four latent variables of the ESPI Scale.

The four-factor structure identified via exploratory analysis was subjected to confirmatory factor analysis. Although the χ^2 value was significant, $\chi^2 (N = 203, df = 48) = 102.43, p < .001$, the incremental fit indices (NFI, CFI, IFI, and TLI) ranged from .94 to .98 indicating a good fit to the data relative to the null model (Appendix I). The only possible improvement in the

fit of this model therefore ranged from 2% to 6%. The maximum likelihood estimates show that the standardised regression weights (factor loadings) for the measurement items were all significant by the critical ratio test ($p < .05$). The regression weights ranged from .84 (S_P1) to .97 (PD_P3). Explained variances for the 12 measurement items ranged from .70 (S_P1) to .95 (PD_P3). Unexplained variances, therefore, ranged from 5% to 30%. The results suggest that the model's latent constructs were well represented by their respective measurement items. Table 5 presents the standardised regression weights and the explained and unexplained variances for the measurement items.

Table 5

Standardised Regression Weights, Explained Variance, and Residual Variance for the ESPI Scale

Item	Standardised regression weights	Explained variance	Residual variance
Empathy			
E_P1	.95	.89	.11
E_P2	.91	.82	.18
E_P3	.91	.83	.17
Sympathy			
S_P1	.84	.70	.30
S_P2	.94	.89	.11
S_P3	.86	.75	.25
Personal distress			
PD_P1	.93	.86	.14
PD_P2	.94	.88	.12
PD_P3	.97	.95	.05
Indifference			
I_P1	.85	.72	.28
I_P2	.89	.79	.21
I_P3	.85	.73	.27

6.5 *Stage 4 - Convergent Validity*

To assess convergent validity of the ESPI Scale, correlations were computed between the four ESPI subscales and a number of other scales that measure similar constructs. Dane (1990) contends that convergent validity involves measuring the extent to which new measures compare to several existing measures of the same concept. The correlations between the measures should not be extremely high, indicating that the new scale is measuring something different to existing scales. A test of convergent validity was conducted by correlating the four ESPI factors of empathy, sympathy, personal distress, and indifference, with the three criterion variables of the Reduced Emotional Intensity Scale (EIS-R), the personal distress subscale of the Interpersonal Reactivity Index (PD-IRI), and the empathic concern subscale of the IRI (EC-IRI).

The 17-item EIS-R by Geuens and De Pelsmacker (2001) differentiates between high and low emotional intensity. As empathy has been shown to be mainly affective, it is expected that the EIS-R and the empathy factor of the ESPI Scale will be positively correlated. It is further expected that there will be a positive correlation between the EIS-R and the personal distress factor, due to the high level of affect characteristic of personal distress. Conversely, sympathy is expected to correlate negatively with the EIS-R as this study has previously argued that it is predominantly cognitive. As the indifference construct has been shown to involve a low level of affect, it is expected that the EIS-R will also correlate negatively with this construct.

The PD-IRI is expected to correlate positively with the personal distress subscale of the ESPI Scale as the construct has a high level of affect. It is also expected that a positive correlation will be produced between empathy

and the PD-IRI, as both variables have high levels of affect. For sympathy, however, a negative correlation is expected with the PD-IRI as it has been argued that sympathy is more cognitive than affective. Similarly, a negative correlation is expected between indifference and the PD-IRI as indifference has a low level of affect.

The personal distress and empathy subscale of the ESPI Scale are expected to correlate positively with the EC-IRI, given that both are affective in nature. A negative correlation is expected to be produced between EC-IRI and sympathy, as sympathy is considered to be more cognitively oriented. A negative correlation is also expected between EC-IRI and indifference, as indifference is not considered to be highly affectively oriented.

6.5.1 Reliability of the ESPI Subscales

Prior to testing for convergent validity, the internal consistency of the ESPI subscales was assessed again. As this stage of the study employed a different sample to that employed in the exploratory factor analysis stage, it was necessary to re-test the reliability of the ESPI subscales. Re-testing the reliability of the ESPI subscales on this sample will demonstrate that the reliability of the four subscales is stable across different samples. The results of the reliability analysis revealed high internal consistency for each of the four subscales of empathy (Cronbach's alpha .94), sympathy (Cronbach's alpha .91), personal distress (Cronbach's alpha .95), and indifference (Cronbach's alpha .89) (see Appendix J).

6.5.2 Reliability of the PD and EC subscales of the IRI (Davis, 1983), and the EIS-R (Geuens & De Pelsmacker, 2001)

In addition, the internal consistencies of the PD-IRI, the EC-IRI, and the EIS-R were assessed (Appendix K). For the PD-IRI, Davis (1980) reported

an alpha coefficient of .78 for both males and females, and for the EC-IRI, alphas were .72 for males and .70 for females. In the present study, the alpha for EC-IRI was .75 for six items after deleting item 2 from the analysis due to its low item-total correlation ($< .33$). An alpha of .81 was obtained for PD-IRI with all seven items retained. Cronbach's alpha for the EIS-R has been reported by Geuens and De Pelsmacker (2001) as .87. Reliability analysis of the EIS-R in the present study produced an equivalent alpha level of .87. The results indicate that all three subscales are internally consistent and reliably measure the constructs they represent.

6.5.3 Item Parcelling

Item parcels were developed prior to testing the ESPI Scale for convergent validity. The measurement model contained the seven latent variables of (1) empathy, (2) sympathy, (3) personal distress, (4) indifference, (5) EIS-R, (6) EC-IRI, and (7) PD-IRI.

The procedure outlined by Russell et al. (1998) which was used to create item parcels for empathy, sympathy, personal distress, and indifference in the CFA analysis was again followed to create parcels for the EIS-R, the EC-IRI, and the PD-IRI. Items were rank ordered from the lowest to the highest based on the corrected item-total correlations produced from reliability analysis. Items with low item-total correlations and items with high item-total correlations were grouped together, and so on until all parcels contained an equivalent level of high and low item-total correlations.

Empathy

The latent variable of empathy was represented by three item parcels. The first parcel (E_P1) contained the summation of the means of the three items of E4, E3, and E10. The second parcel (E_P2) contained the

summation of the means of the three items E1, E5, and E6. Similarly, the third parcel (E_P3) contained the summation of the means of the four items of E2, E7, E8, and E9.

Sympathy

Three parcels were created for the latent variable of sympathy by summing the means of the items in each parcel. The first parcel was S_P1 which contained items S8, S7, and S10. The second parcel was S_P2 containing items S2, S5, and S9, and the last parcel S_P3 contained the four items S3, S4, S1, and S6.

Personal Distress

The latent variable of personal distress was represented by three parcels, with each containing five items, the means of which were summed to produce each parcel. The first parcel was PD_P1 containing items PD14, PD9, PD15, PD12, and PD4. The second parcel PD_P2 contained items PD10, PD8, PD2, PD6, and PD1. The third parcel PD_P3 contained items PD3, PD13, PD7, PD11, and PD5.

Indifference

The latent variable of indifference was represented by three parcels, with two parcels containing three items, and one parcel consisting of two items. The parcels were produced by summing the means of the respective items. The first parcel was I_P1 containing items I2, I7, and I11. The second parcel was I_P2 which contained items I4, I8, and I10. The third parcel of I_P3 consisted of items I1 and I5.

EIS-R

Three parcels were computed from the sum of the means of the respective items to represent the latent variable of EIS-R. The first parcel

labelled EIS_P1 contained the summation of the means of six items, EIS6, EIS15New, EIS4, EIS1, EIS13, and EIS10. The second parcel labelled EIS_P2, contained the summation of the means of six items, EIS2, EIS14New, EIS16, EIS9, EIS17, and EIS12. The third parcel labelled EIS_P3, contained the summation of the means of five items, EIS7, EIS5New, EIS3New, EIS11, and EIS8New.

EC-IRI

For the latent variable representing Davis' (1983) empathic concern, three parcels containing two items each were created. The summed means of items EC5New and EC1 represented the first parcel DEC_P1. The summed means of items EC3 and EC6 represented the second parcel DEC_P2. The summed means of items EC4New and EC7 represented the third parcel, DEC_P3.

PD-IRI

The latent variable for Davis' (1983) personal distress was represented by three parcels, with item means summed to produce each parcel. The first parcel labelled DPD_P1, contained the summation of the means of two items, DPD3New and DPD6. The second parcel labelled DPD_P2, contained the summation of the means of two items, DPD1 and DPD2. The third parcel labelled DPD_P3, contained the summation of the means of three items, DPD4, DPD5New, and DPD7. Table 6 presents the seven latent variables with their respective item parcels, item numbers, and item-total correlations.

Table 6

*Item Parcels for the Seven Latent Variables included in the Convergent**Validity Analysis*

Latent Variable	Item Parcel	Item	Item-total correlation
Empathy	E_P1	E4	.74
		E3	.84
		E10	.79
	E_P2	E1	.75
		E5	.71
		E6	.78
	E_P3	E2	.79
		E7	.76
		E8	.82
Sympathy	S_P1	E9	.73
		S8	.59
		S7	.70
	S_P2	S10	.78
		S2	.70
		S5	.67
	S_P3	S9	.78
		S3	.73
		S4	.71
Personal Distress	PD_P1	S1	.57
		S6	.73
		PD14	.55
		PD9	.77
		PD15	.78
	PD_P2	PD12	.76
		PD4	.70
		PD10	.59
		PD8	.70
		PD2	.62
Indifference	PD_P3	PD6	.82
		PD1	.87
		PD3	.68
		PD13	.72
		PD7	.72
	I-P2	PD11	.88
		PD5	.80
Indifference	I_P1	I2	.67
		I7	.55
		I11	.77
	I-P2	I4	.67
		I8	.77
		I10	.60
	I-P3	I1	.76
		I5	.63

EIS-R	EIS_P1	EIS6	.38
		EIS15New	.46
		EIS4	.49
		EIS1	.52
		EIS13	.53
		EIS10	.56
	EIS_P2	EIS2	.41
		EIS14New	.48
		EIS16	.50
		EIS9	.52
		EIS17	.54
		EIS12	.57
	EIS_P3	EIS7	.46
		EIS5New	.48
		EIS3New	.52
		EIS11	.52
		EIS8New	.56
EC-IRI	DEC_P1	EC5New	.40
		EC1	.63
	DEC_P2	EC3	.40
		EC6	.60
	DEC_P3	EC4New	.52
		EC7	.46
PD-IRI	DPD_P1	DPD3New	.42
		DPD6	.65
	DPD2_P2	DPD2	.52
		DPD1	.64
	DPD_P3	DPD4	.53
		DPD5New	.59
		DPD7	.62

6.5.4 Measurement Model for Convergent Validity

Convergent validity of the ESPI Scale was assessed by correlating the four subscales of empathy, sympathy, personal distress, and indifference with the EIS-R, the EC subscale of the IRI, and the PD subscale of the IRI. Figure 5 presents the seven-factor measurement model posited to test the relationship between the four subscales of the ESPI and the three criterion measures of emotional intensity (EIS-R), Davis' (1983) empathic concern (EC), and Davis' personal distress (PD).

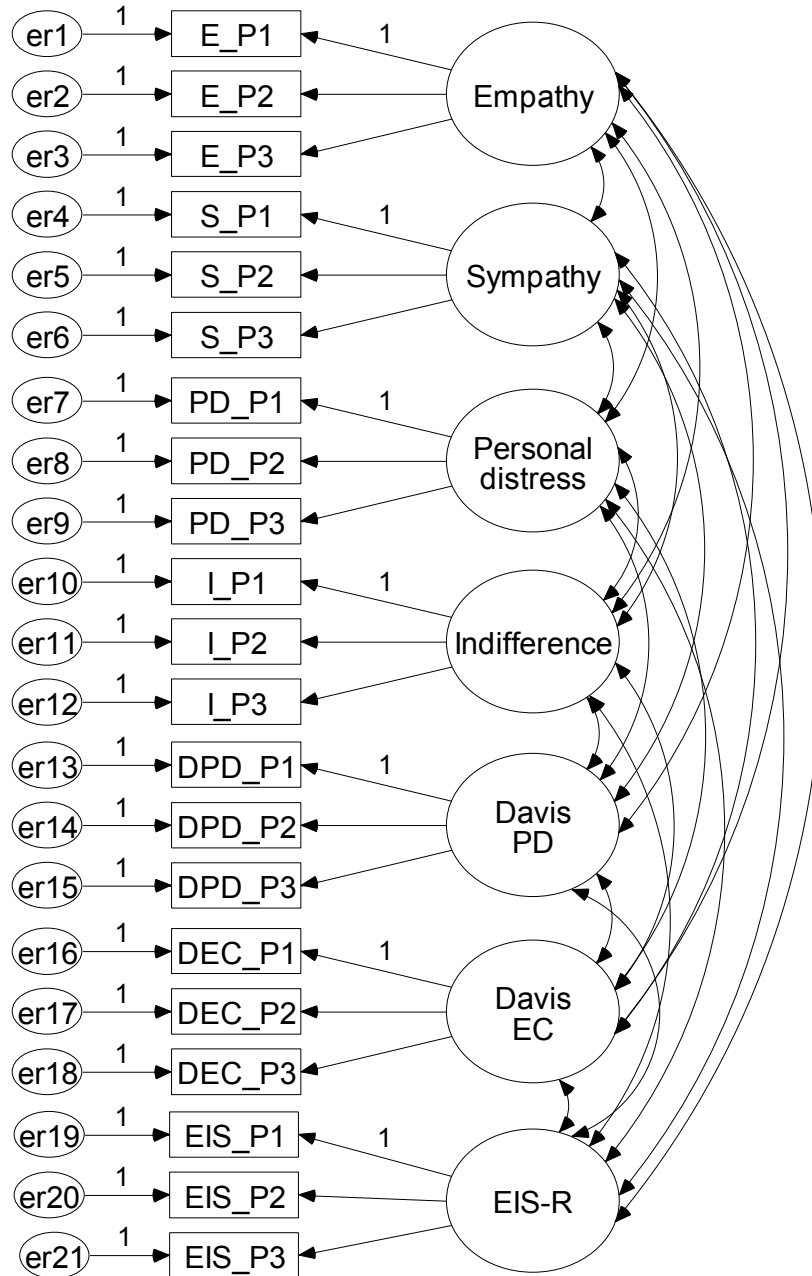


Figure 5. Measurement model for convergent validity.

Maximum likelihood estimates were computed to estimate the fit of this measurement model and to examine the strength and direction of the correlation coefficients between the four subscales of the ESPI Scale, and emotional intensity as measured by the EIS-R, empathic concern (EC), and

personal distress (PD) measured by the IRI. Although the obtained χ^2 goodness-of-fit index was significant, indicating that the posited model did not fit the data well, $\chi^2 (N = 203, df = 168) = 273.76, p < .05$ (see Appendix L) all the incremental fit indices indicated that the model fit the data very well compared to the independence model. The incremental fit indices of NFI, RFI, IFI, TLI, and CFI ranged from .90 to .97. Thus, the only improvement in fit to the model ranged from 3% to 10%. As the incremental fit indices were all above .90, no further improvement to the model was deemed necessary.

The standardised regression weights for the measurement item parcels ranged from .70 (EIS_P3) to .97 (PD_P3) and were all significant by the critical ratio test ($p < .05$). Explained variances for the 21 measurement variables (item parcels) ranged from 49% (EIS_P3) to 95% (PD_P3). Unexplained variances, therefore, ranged from 5% to 51%. These findings suggest that the model's latent constructs were well represented by their respective measurement item parcels. Table 7 presents the standardised regression weights and the explained and unexplained variances for the measurement item parcels.

Table 7

Standardised Regression Weights, Explained and Residual Variances for the ESPI Subscales, EIS-R, EC and PD Subscales of the IRI

Item	Standardised regression weights	Explained variance	Residual variance
Empathy			
E_P1	.94	.88	.12
E_P2	.91	.82	.18
E_P3	.91	.84	.16
Sympathy			
S_P1	.84	.71	.29
S_P2	.94	.88	.12
S_P3	.87	.75	.25
Personal Distress			
PD_P1	.93	.87	.13
PD_P2	.94	.88	.12
PD_P3	.97	.95	.05
Indifference			
I_P1	.85	.72	.28
I_P2	.88	.78	.22
I_P3	.87	.75	.25
Emotional Intensity			
EIS_P1	.95	.90	.10
EIS_P2	.79	.62	.38
EIS_P3	.70	.50	.50
Davis Empathic Concern			
DEC_P1	.78	.61	.39
DEC_P2	.71	.50	.50
DEC_P3	.75	.57	.43
Davis Personal Distress			
DPD_P1	.75	.56	.44
DPD_P2	.78	.61	.39
DPD_P3	.84	.71	.29

The covariances produced from the analysis showed a number of significant relationships between the latent variables ($p < .001$), and all were in the expected directions (see Appendix L). Table 8 presents the standardised correlation coefficients between the seven latent constructs.

Table 8

Correlations between the ESPI Subscales, Davis Empathic Concern, Davis Personal Distress, and the EIS-R

	1	2	3	4	5	6	7
1. Empathy	1.00	-.27**	.43**	-.65**	.46**	.33**	.40**
2. Sympathy		1.00	-.56**	.10	-.13	-.31**	-.19*
3. Personal distress			1.00	-.00	.01	.38**	.09
4. Indifference				1.00	-.55**	-.12	-.32**
5. Davis EC					1.00	.02	.52**
6. Davis PD						1.00	.38**
7. EIS-R							1.00

Note. N = 203. * $p < .05$, ** $p < .001$.

Correlations between the ESPI Subscales and the EIS-R

The significant positive correlation between empathy and the EIS-R ($r = .40$, $p < .001$) suggests that increases in empathy tend to be related to increases in emotional intensity. A non-significant relationship was found between personal distress and the EIS-R. The correlations between sympathy and indifference with the EIS-R were both significant and negative in direction ($r = -.19$, $p < .05$; $r = -.32$, $p < .001$ respectively). The negative correlations indicate that high levels of sympathy and indifference are associated with a lower level of emotional intensity.

Correlations between the ESPI Subscales and the PD-IRI

The correlation between the personal distress subscale of the ESPI Scale and the Davis personal distress (PD-IRI) variable was positive and

significant ($r = .38, p < .001$). This moderate correlation indicates that both measures share some overlap in meaning (14.5% of the variance accounted for). As expected, there was a significant positive correlation between empathy and the PD-IRI ($r = .33, p < .001$), suggesting that high levels of affect are common to both empathy and the personal distress construct by Davis (1980). A significant but negative correlation was found between sympathy and the PD-IRI ($r = -.31, p < .001$), suggesting that the higher the sympathy, the lower the personal distress. Indifference correlated negatively but not significantly with the PD-IRI.

Correlations between the ESPI Subscales and the EC-IRI

The empathy subscale of the ESPI Scale correlated significantly and positively with the Davis empathic concern (EC-IRI) subscale ($r = .46, p < .001$). This supports the expectation that both empathic measures would have high levels of affect. The amount of shared variance is 21.16% which is indicative of a modest overlap between the two variables.

Conversely, sympathy correlated negatively, but not significantly with the EC-IRI. The personal distress subscale of the ESPI Scale also did not correlate significantly with the EC-IRI. Conversely, indifference correlated significantly and negatively with the EC-IRI ($r = -.55, p < .001$). This finding suggests that the higher the level of indifference, the lower the level of empathic concern.

Overall, the obtained correlation coefficients showed that the direction of the relationships between the subscales were as expected. Empathy and personal distress both correlated positively with the EIS-R, and sympathy and indifference correlated negatively with the EIS-R. Similarly, empathy and personal distress correlated positively with the PD-IRI, while sympathy and

indifference correlated negatively with the PD-IRI. Empathy and personal distress also correlated positively with the EC-IRI, while sympathy and indifference correlated negatively. These findings indicate that the ESPI subscales exhibited adequate convergent validity with the three criterion variables.

6.6 *Discussion of Studies 1 and 2*

The purpose of Studies 1 and 2 was to develop and to validate the ESPI Scale. Study 1 involved the identification of themes and the authoring of items to reflect the emotions of empathy, sympathy, personal distress, and indifference. Research by Eisenberg (2000), Eisenberg et al. (1998), Escalas and Stern (2003), Hoffman (1982, 1984b, 1987) and Sojka and Giese (1997) was consulted to establish the theoretical bases of the four emotion concepts, which subsequently determined the terminology used in the authoring of each item. This resulted in 47 items being produced that were reviewed by five psychologists for the psychometric development stage of the ESPI Scale. The second stage of Study 1 involved the rating of the trial transcript used in this research to determine ambiguity.

In Study 2 the 47 items developed to reflect the themes of empathy, sympathy, personal distress, and indifference were subjected to both exploratory and confirmatory factor analysis, reliability analysis, and convergent validity analysis. The initial exploratory factor analysis produced a four factor solution (i.e., empathy, sympathy, personal distress, and indifference). Reliability analysis of these four factors supported their internal consistency with Cronbach's alphas at or over .90. Subsequent confirmatory factor analysis was conducted to substantiate the factor structure of the ESPI

Scale. The results of the analysis confirmed the four-factor structure of the ESPI Scale identified from the exploratory factor analysis.

Overall, the results of the convergent validity were as expected, demonstrating adequate convergent validity for the developed ESPI Scale. The results obtained thus enable an examination of the two lines of thought proposed by Eisenberg et al. (1989) and Sojka and Giese (1997) on the theoretical natures of empathy, sympathy, personal distress, and indifference. The first approach by Eisenberg et al. involves changes in heart rate being associated with self-focus and other-focus (i.e., accelerated heart rate was linked to self-focusing, and decelerated heart rate was associated with other-focus). Eisenberg et al. found that accelerated heart rate was characteristic of personal distress and decelerated heart rate was characteristic of sympathy. In keeping with this theme, Dillon, Keogh, Freeman, and Davidoff (2000) suggested that as the intensity of emotional experience increases, so does heart rate. If the assertion by Dillon et al. is correct, then logically personal distress should be associated with increases in emotional intensity, while sympathetic responses should be associated with decreases in emotional intensity.

Hoffman (1987) claimed that empathy is an experience that involves other-focus. It could reasonably be expected, therefore, that empathy should be associated with decreases in emotional intensity, similar to that of sympathy. The results from the convergent validity analysis in this study do not support this premise, with the finding of a positive correlation between empathy and emotional intensity. These results therefore suggest that empathy involves accelerated heart rate and subsequently, is self focused. For indifference, self-focus rather than other-focus (and thus decreases in

emotional intensity) is more appropriate as this construct does not involve concern for another's plight or situation. Although the association between indifference and emotional intensity was found to be negative, based on Hoffman's rationale indifference should involve decelerated heart rate and be other-focused rather than self-focused.

Contrary to findings by Eisenberg et al. (1989) that attributed self and other focus to accelerated and decelerated heart rate (characteristic of personal distress and sympathy respectively), the four types of processors (i.e., thinking, feeling, combination, and passive) identified by Sojka and Giese (1997) provide the possibility of a second scenario to be examined. The composition of these four processing types has previously been established as contributing to the basis of the four emotions investigated in the present study. To reiterate, Sojka and Giese found that thinking processors relied more on cognitive processing than affective processing when making decisions. Conversely, feeling processors relied more on affective processing than cognitive processing. Combination processors were equally high in affective and cognitive processing, and passive processors were equally low on both affective and cognitive processing. In the present study, thinking processors were equated with sympathy, feeling processors with empathy, combination processors with personal distress, and passive processors with indifference. As the levels of affect are proposed to vary in intensity as a function of the type of processing (or type of emotion), several associations with emotional intensity (or affective arousal) can be proposed. As empathy is high in affect, there should be a positive correlation with emotional intensity as measured by the EIS-R. Sojka and Giese suggested that although combination processors (or

personal distress in this research) are equally high in cognition and affect, affect will dominate thinking if the information to be considered is also affectively oriented. As the trial materials used in the present research are affective in nature, a positive correlation should be produced between personal distress and the EIS-R. Sympathy has been established as being more cognitive than affective, and therefore, a negative correlation would be expected with the EIS-R. Indifference (or passive processing) was not investigated by Sojka and Giese beyond being equally low in cognition and affect, but as affect was found to be low, a negative correlation should be produced between indifference and the EIS-R. Findings from the convergent validity analysis conducted in this study support these arguments with the obtained correlations in the directions predicted by Sojka and Giese's research findings.

The results of Study 2 appear to support the findings by Sojka and Giese (1997) but offer only partial support for those of Eisenberg et al. (1989) and Hoffman (1987). While the characteristics of sympathy and personal distress appear to be consistent with the explanations presented by Eisenberg et al., the present study failed to support the constructs of empathy and indifference based on the premise of inward and outward focusing and thus accelerated and decelerated heart rate.

CHAPTER 7

Study 3 - Testing of Structural Path Models

7.1 *Overview of Study 3*

The validity testing of the ESPI Scale developed in Study 2 provided evidence of a well founded and reliable scale to measure the concepts of empathy, sympathy, personal distress, and indifference. The ESPI Scale was subsequently utilised in Study 3 to examine juror decision-making in a murder trial via two structural path models. These two decision-making models emerged from the literature reviewed in Chapters 1 to 4: (1) the Schema model, and (2) Posner's model. In addition to testing the adequacy of these two path models in determining the juror decision-making process, the impact of black and white photographs and colour photographs on decision-making was also examined, as existing research (e.g., Douglas et al., 1997; Kassin & Garfield, 1991; & Pratt, 2001) has not yielded consistent findings. The primary aims of Study 3, therefore, were to evaluate and to compare the adequacy of the Schema model (see Figure 6) and Posner's model (see Figure 7), and to determine the consistency of these models across black and white photographs and colour photographs.

These aims were achieved by firstly testing a measurement model to determine the reliability of the measurement indicators selected to represent the models' latent constructs, and testing the consistency of these reliabilities across the two types of crime scene photographs – black and white versus colour. Secondly, any differences in the reliabilities across the two types of photographs were then taken into account in the subsequent testing of the two structural path models. Model comparison utilising multi-group analysis

was employed to determine which of the two models offers the best representation of the decision-making process in a murder trial.

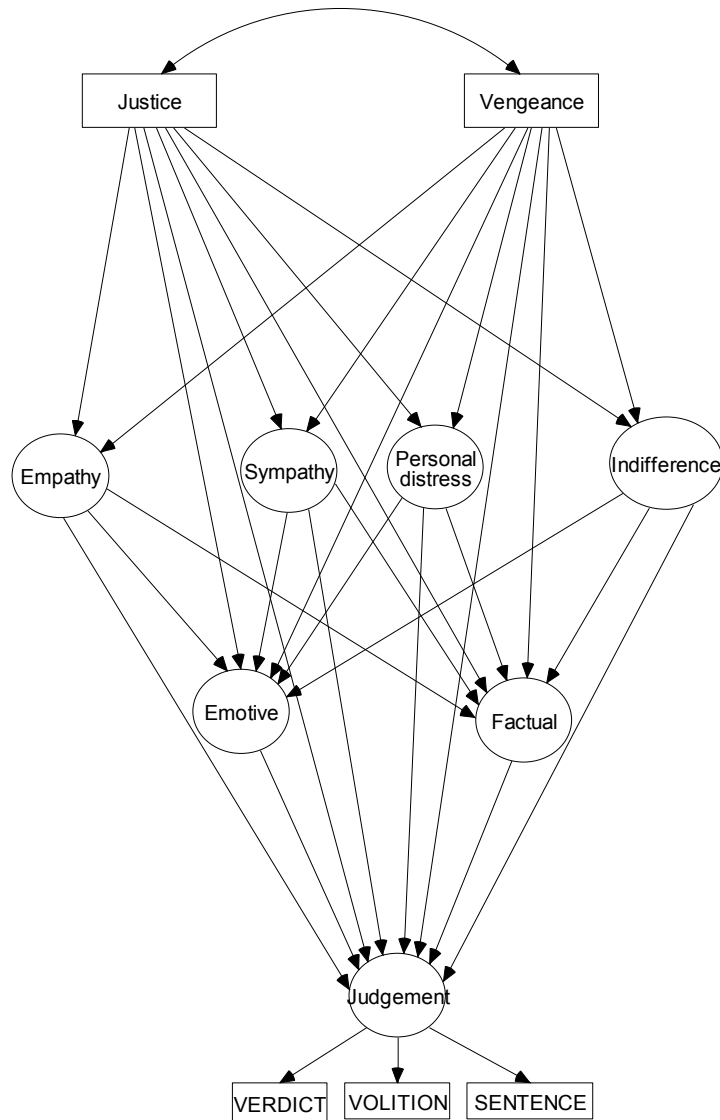


Figure 6. The Schema model with emotions preceding factual and emotive information.

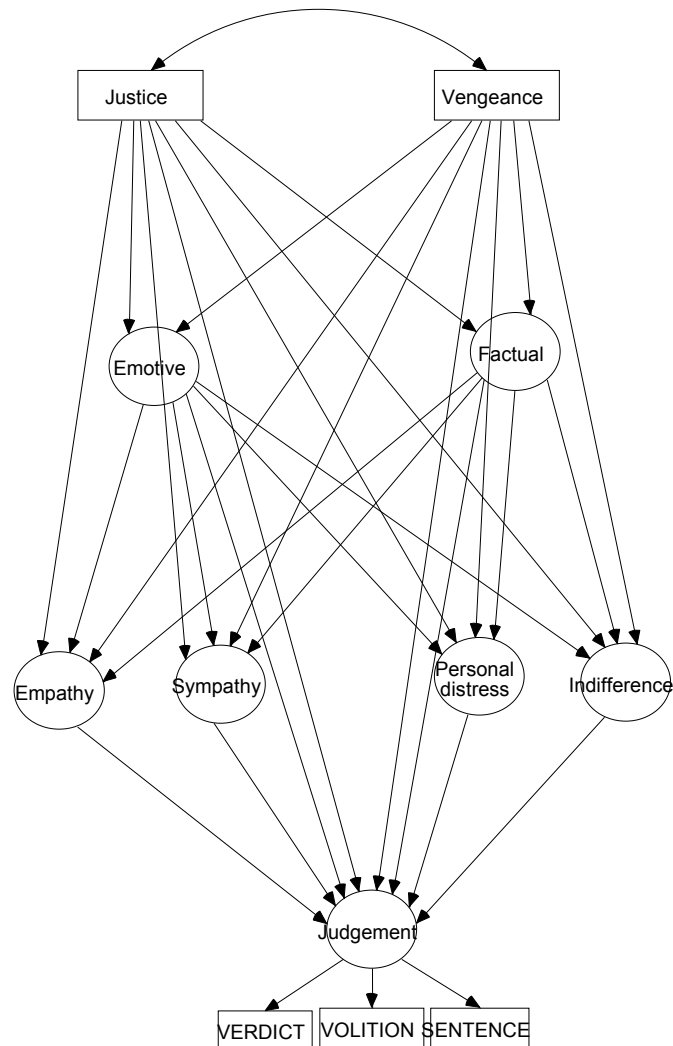


Figure 7. Posner's model with factual and emotive information preceding emotions.

7.2 Hypotheses

7.2.1 The Schema Model

For the Schema model, the structural relationships between the exogenous variables of justice and vengeance, and the endogenous variable of judgement are hypothesised to be both direct and indirect. The hypothesised *direct* relationships indicate that justice and vengeance are significant predictors of judgement. Specifically, it was hypothesised that

being justice motivated should be associated with a more lenient judgement. In contrast, being vengeance motivated should be associated with a harsher judgement.

The hypothesised *indirect* paths predicted that the way the justice motive may influence judgement is through its associations with (1) increased sympathy, decreased empathy, and decreased personal distress, and (2) a lower recognition of emotive information and a higher recognition of factual information. It was also speculated that the justice motive would be associated with a more lenient judgement through its association with decreased indifference, and subsequently with a lower recognition of emotive information and a higher recognition of factual information.

For the vengeance motive, it was expected that the *indirect* association with a harsher judgement would be through its association with (1) increased empathy, increased personal distress, and decreased sympathy, and (2) a higher recognition of emotive information and a lower recognition of factual information. Further, it was surmised that the vengeance motive may influence a harsher judgement through its association with increased indifference, and subsequently a higher recognition of emotive rather than factual information.

A further hypothesis to be tested was that the Schema model would provide a better fit to the data (i.e., a better representation of the decision-making process) for the colour photographs group. The underlying rationale was Pratt's (2001) assertion that the presentation of colour photographs evokes strong emotions. Consistent with Schema Theory, these emotions should then direct attention to congruent trial information influencing the judgement rendered (as presented in the preceding hypotheses).

7.2.2 *Posner's Model*

Posner's model of decision-making hypothesised a reversal in the order of the variables that were presented in the Schema model. It was expected, therefore, that justice and vengeance motives should influence the judgement rendered, both directly (as in the Schema model) and indirectly. The anticipated indirect relationships suggest that ascription to the justice motive may influence the judgement through its associations with (1) a higher recognition of factual information and a lower recognition of emotive information, and (2) increased sympathy, decreased empathy, decreased personal distress, and decreased indifference.

Being vengeance motivated was hypothesised to be indirectly associated with a harsher judgement through its associations with (1) a higher recognition of emotive information, and a lower recognition of factual information, and (2) increased empathy, increased personal distress, increased indifference, and decreased sympathy.

It was further anticipated that Posner's model would provide a better fit to the data for the black and white photographs group than the colour photographs group. As it has been claimed that black and white photographs appear to be less emotionally arousing than colour (Pratt, 2001), this presentation mode should appeal to individuals who attended to the emotive and factual information initially.

7.2.3 *Multi-Group Analysis: Evaluation of the Measurement Model across Black and White Photographs and Colour Photographs*

Prior to testing the Schema and Posner path models, multi-group analysis was conducted on a measurement model to (1) determine whether the indicator items selected to represent the model's latent constructs did so

in a reliable manner, and (2) whether these reliabilities are consistent across the two types of photographs - black and white and colour. Pratt (2001) has suggested that colour photographs are more persuasive to jurors than black and white photographs. However, in a study that presented graphic evidence in either videotaped or in verbal mode, Kassin and Garfield (1991) found that such graphic evidence reduced adherence to the rule of reasonable doubt and that jurors accepted less proof to convict the defendant, regardless of presentation mode. Douglas et al. (1997) found little difference in conviction rates regardless of whether photographic evidence was in colour or black and white. It was revealed, however, that individuals who received colour photographs experienced stronger emotions than those who received black and white, or no photographs.

Due to the inconsistent findings from research into the influence of photographic evidence by Kassin and Garfield (1991) and Douglas et al. (1997), the primary aim of the testing of the measurement model was to evaluate and to determine the consistency of the reliabilities of the model's indicator variables (i.e., their factor loadings) across the two groups presented with either black and white or colour photographs.

7.3 Method

7.3.1 Participants

The participants were members of the general population, recruited from the eight States and Territories of Australia. The Central Queensland University Population Research Centre produced a randomised proportional sample of names and addresses to which 15,000 invitations to complete the survey were mailed. The sample size for each State or Territory was approximately .073% of the population size. All States, excluding the

Australian Capital Territory, were categorised by capital city and then by the rest of the State, which consisted of all other non-capital city areas within the State. The result of this proportional sampling is presented in Table 9.

Population sizes for each State were accessed from the Australian Bureau of Statistics (ABS) website.

Table 9

Sample Breakdown within States

Location	Population	% State	Sample Size
Australian Capital Territory	325,800	1.60	240
New South Wales – Sydney	4,198,543	61.85	3,089
New South Wales – Rest of State	2,589,257	38.15	1,906
Victoria – Melbourne	3,366,542	66.82	2,477
Victoria – Rest of State	1,671,158	33.18	1,230
Queensland – Brisbane	1,627,535	40.88	1,197
Queensland – Rest of State	2,353,265	59.12	1,732
South Australia – Adelaide	1,072,585	69.44	790
South Australia – Rest of State	472,115	30.56	348
Tasmania – Hobart	195,800	40.28	144
Tasmania – Rest of State	290,200	59.72	214
Northern Territory – Darwin	109,419	53.72	81
Northern Territory – Rest of State	94,281	46.28	69
Western Australia – Perth	1,339,993	66.38	986
Western Australia – Rest of State	678,707	33.62	500
TOTAL			15,000

The total sample for Study 3 consisted of 498 participants (see Appendix M), which represents an overall return rate for the survey of 3.32%. Of the participants, 98 indicated they were from Queensland, representing a response rate of 3.34% out of the 2,929 invitations sent. One hundred and thirty-seven participants were from New South Wales, representing a response rate of 2.74% from a sample size of 4,995. One hundred and sixteen participants were from Victoria, which is a response rate of 3.13%

from a sample size of 3,707. Fifty-five participants were from Western Australia, which is a response rate of 3.70% from a sample size of 1,486. Fifty-six participants were from South Australia, indicating a response rate of 4.92% from a sample size of 1,138. Twenty-five were from the Australian Capital Territory, which is a response rate of 10.42% from a sample size of 240. Eleven were from Tasmania, which is a response rate of 3.07% from a sample size of 358, and no responses were received from the Northern Territory. The majority of participants were from New South Wales and the least number of participants resided in Tasmania. Table 10 presents a summary of the age, gender, education level, occupational category, and income distribution of the participants.

Table 10

Demographic Information of Participants in Study 3

	%	<i>n</i>
Age		
18-25 years	5.6	28
26-35 years	12.0	60
36-45 years	20.7	103
46-55 years	33.3	166
56-65 years	18.1	90
66 years and over	10.2	51
Gender		
Male	50.6	252
Female	49.4	246
Education		
Primary to year 8	.8	4
Years 9-10	13.7	68
Years 11-12	17.7	88
Technical/Trade	17.3	86
University/Other higher education	50.6	252
Income		
Less than \$10,000	8.6	43
\$10,001-\$20,000	9.2	46
\$20,001-\$30,000	13.3	66
\$30,001-\$40,000	12.0	60
\$40,001-\$50,000	12.2	61
\$50,001-\$60,000	10.8	54
\$60,001 or more per year	33.7	168
Occupation		
Unskilled or semi-skilled worker	8.4	42
Skilled blue-collar worker with apprenticeship or similar training	6.2	31
Clerical, low-level administration, low-salary skilled white collar worker	6.8	34
Small business employer, self-employed, non-executive administrator in a large company or middle-level public servant	18.5	92
Professional	33.7	168
Employer of more than 10 people, executive in organisation greater than 100 or senior public servant	3.2	16
Unemployed/student/retired	23.1	115

The demographics show that the majority of respondents (33.3%) were aged 46 to 55, followed by 20.7% in the 36 to 45 age group, 18.1% in the 56 to 65 age group, 12.0% in the 26 to 35 age group, and 10.2% aged 66 years or over. The lowest proportion of participants included those aged 18 to 25 years, representing 5.6% of the sample. The ABS (2005a) reported that the group with the highest number of people across all States of Australia was aged from 30-34. Data obtained for this study may therefore be slightly under-represented with regard to this particular age group.

With respect to gender, the ABS (2005b) reported that the ratio of males to females across all States of Australia was 99 to 100. This stage of the study had 252 (49.6) males and 246 (49.4) females, which shows that gender composition is relatively equal.

The annual income earned by the majority of respondents in the present sample was between \$60,001 and over (33.7%), followed by 13.3% in the \$20,001 to \$30,000 income bracket. It was reported by the ABS (2006) that the approximate average annual income of residents across Australian States and Territories in 2005 was \$41,064. In the present study, only 12.2% of participants reported this level of income, and were thus under-represented.

Almost 50.6% of respondents had a university or other higher level of education, followed by 17.3% of respondents reporting years 11-12 as their highest level of education. Occupational categories in this study revealed that the majority of respondents (33.7%) were employed as professionals. The second highest category was for those respondents who reported their occupation as unemployed/student/retired (23.1%). According to the ABS (2006), the majority of people across all States and Territories of Australia

reported their occupation as that of an associate professional or professional at 31.3%, with the second highest occupational group classified as low-level administrative or clerical worker (26.5%). Comparisons between the data from this study and those of the ABS indicate that professionals are well represented in the present research. Given the non-representativeness of the study's sample, caution must be taken when generalising the study's findings to the wider population.

7.3.2 Materials

Participants completed a questionnaire consisting of six sections (Appendix N). The first two pages of this questionnaire comprised an information sheet which provided a brief explanation of the study, and a consent form outlining the participants' rights. The information sheet and consent form assured participants of their anonymity and the confidentiality of their responses.

Section one presented seven questions designed to elicit demographic information about the participants with regard to gender, age, education level, annual income, occupation, country of residence, and residence by Australian States.

Section two consisted of the 20-item Justice-Vengeance Scale developed by Ho et al. (2002). These items are measured on a 6 point Likert scale (1 = strongly disagree, 2 = moderately disagree, 3 = barely disagree, 4 = barely agree, 5 = moderately agree, 6 = strongly agree) with high scores indicating strong endorsement of justice or vengeance. Items 15, 18, 19, and 20 were included as "filler" items to mask the true purpose of the questionnaire, but were removed in the subsequent analysis. Of the remaining 16 items, 7 represented justice and 9 represented vengeance.

Section three contained the trial transcript with either a black and white version of the crime scene photographs, or a colour version. Participants were instructed to read the transcript and then peruse the photographs.

Section 4 asked the participants to render a verdict, to indicate the degree of the volition of the defendant, and to recommend a sentence length if they found the defendant guilty. Verdict was measured as 1 (not guilty), 2 (guilty of murder – manslaughter), or 3 (guilty of murder). Volition (i.e., the degree that the participants believed that the defendant intended to murder the victim) was rated from 1 (strongly disagree), 2 (moderately disagree), 3 (barely disagree), 4 (barely agree), 5 (moderately agree), to 6 (strongly agree). Sentence lengths were operationalised as 1 (0 years), 2 (1-5 years), 3 (6-10 years), 4 (11-15 years), 5 (16-20 years), 6 (life), and 7 (death penalty). Thus, the higher the verdict awarded, the stronger the perception of volition, and the lengthier the sentence recommended, the harsher the judgement rendered by the participant.

Section five consisted of 24 questions that tested participants' recognition of emotive information taken from the photographs, and factual information taken from the trial transcript. Participants were asked to select a number that indicated the strength of their belief that the item was part of the trial evidence. The items were rated on a 6-point Likert scale ranging from 1 (absolutely not true 0%), 2 (very unsure 20%), 3 (more unsure than sure 40%), 4 (more sure than unsure 60%), 5 (very sure 80%), to 6 (completely true 100%). Possible scores ranged from 12 (absolutely not true) to 72 (completely true). Four of the twelve factual items (items 5, 7, 19, and 21) and four of the twelve emotive items (items 4, 10, 16, and 24) were reverse scored. A total score was derived by summing the scores for the two

subscales, with high scores indicating strong recognition of factual or emotive information. This scoring procedure was adopted to obtain an overall measure of participants' recognition of factual or emotive information. It is acknowledged that while individuals recognise information to varying degrees, a yes/no answer format to these items was considered to be inadequate to obtain the overall impact of the information.

Section six consisted of the 43-item ESPI Scale to be rated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). These items were all written in the same direction and a total score was derived by summing the scores for each subscale. High scores on each subscale indicated endorsement of empathy, sympathy, personal distress, or indifference. The instructions given to the participants requested that they answer each item on the scale with regard to the victim in the transcript.

7.3.3 Procedure

Participants were informed that the purpose of the study was to investigate decision-making in the context of a criminal trial and were warned that gruesome photographs would be presented as part of the evidence in the trial. On the information page preceding the questionnaire, several counselling agencies and contact details were recommended for those participants who experienced negative sequelae from filling in the study's questionnaire.

All participants were advised prior to the start of sessions that (1) the questionnaire would take approximately 30 minutes to complete, (2) participation was entirely voluntary, and (3) they have the right to withdraw from the study at any time. In addition, participants were told that the Informed Consent Form would not be associated with the data, ensuring both

their anonymity and the confidentiality of their responses. Participants were further informed that if they wished to withdraw from the study, their data would be destroyed. An assurance was also given that any data gathered as part of this research and for any resulting publication purposes, would not identify any individual in any way. It was explained to participants that responses to the questionnaire would be coded and therefore recorded anonymously, and any communications (written or oral) would likewise remain anonymous.

7.3.4 Results

Missing Data

Data screening in this stage of the research indicated that missing data occurred in approximately 3% of cases. Missing cases were completely at random and the expectation-maximisation method used in Study 2 and as recommended by Enders (2003) was again utilised to estimate missing parameter values.

7.3.4.1 Reliability Analysis

Study 3 employed a different sample from Study 2, which necessitated reliability analysis to determine the internal consistency of the three scales included in the questionnaire. These scales were: (1) the Justice-Vengeance Scale developed by Ho et al. (2002), (2) the 24-item scale measuring recognition of factual and emotive information from the transcript and photographs, and (3) the ESPI Scale developed in Study 1.

Justice-Vengeance Scale

The Justice-Vengeance Scale developed by Ho et al. (2002) consists of four subscales: (1) justice-fairness, (2) justice-legal, (3) vengeance-emotion, and (4) vengeance-sentence. In the current study, an overall measure of

justice and vengeance as existing attitudes was required, rather than focusing on the multidimensional aspects of justice and vengeance. Subsequently, the justice-fairness and justice-legal items were grouped together to represent the variable of *justice*, and the vengeance-emotion and vengeance-sentence items were grouped together to represent the variable of *vengeance*. The four filler items of the 20 item Justice-Vengeance Scale were removed prior to analysis. For the present study, reliability analysis of the justice scale revealed that four items had corrected item-total correlations under the .33 criterion (Appendix O) which were removed in the subsequent analysis. A second reliability analysis using the remaining three items with corrected item-total correlations over .33 achieved an acceptable level of reliability with a Cronbach's alpha of .57 (Appendix O). Reliability analysis of the vengeance scale (Appendix P) achieved a Cronbach's alpha of .80. All 9 items had corrected item-total correlations over .33, and were retained for subsequent analyses.

ESPI Scale

Reliability analysis of the four subscales of the ESPI Scale in Study 2 revealed Cronbach's alphas of .94 for empathy, .93 for sympathy, .95 for personal distress, and .90 for indifference. For the current sample, Cronbach's alphas were .93 for empathy, .91 for sympathy, .92 for personal distress, and .86 for indifference (Appendix Q). All items in the four subscales had corrected item-total correlations over .33, and were retained for subsequent analyses.

Factual and Emotive Information Items

The authoring of the items representing the 12 factual and the 12 emotive questions involved the researcher writing statements using salient

information from the trial transcript (i.e., factual items) and the photographs (i.e., the emotive items). The item pool was evaluated by two professional psychologists from the School of Psychology and Sociology at Central Queensland University. After review, all 24 items were included in the questionnaire and presented in random order. To assess the internal consistency of the 12 factual and the 12 emotive information items, the 24 items representing the two factors were item analysed and Cronbach's alphas were calculated. Reliability analysis of the 12 factual items revealed that 8 items achieved corrected item-total correlations less than .33 (Appendix R) and were omitted from further analyses. For the remaining four items, a Cronbach's alpha of .67 was obtained (Appendix S). Nine of the twelve emotive items produced corrected item-correlations less than .33 (Appendix T) and were omitted from subsequent analyses. Cronbach's alpha for the remaining three items was .54 (Appendix U).

7.3.4.2 Item Parcelling

The posited measurement model contained the seven latent variables of (1) empathy, (2) sympathy, (3) personal distress, (4) indifference, (5) factual information, (6) emotive information, and (7) judgement. Items were grouped in parcels rather than using individual items as indicators for the four latent variables of empathy, sympathy, personal distress, and indifference. This was undertaken to produce a more parsimonious model with fewer parameters to be estimated, and thus improving the probability of overall fit of the model to the data. The item parcels representing these latent constructs were developed by (1) rank ordering the items on the basis of their corrected item-total correlations, and (2) grouping those measurement items with low item-total correlations with those items with high item-total correlations.

Consequently, all parcels contained an equivalent number of items of high and low item-total correlations.

Justice and Vengeance

For both the Schema and Posner models, the justice and vengeance constructs were represented as measurement variables computed from aggregated scores. The three items of JL3, JL7, and JL11 were summed and the mean computed to represent the measurement variable of *justice*. The nine items of VS2, VE4, VS6, VE8, VS10, VE12, VS14, VE16, and VS17 were summed and the mean computed to represent the measurement variable of *vengeance*.

Empathy

Three item parcels were created for the latent variable of empathy with the first parcel (E_P1) computed from the summation of the means of the three items of E4 (I-T .70), E8 (I-T .78), and E9 (I-T .67). The second parcel (E_P2) was computed from the summation of the means of three items, E1 (I-T .68), E5 (I-T .72), and E7 (I-T .77). The third parcel (E_P3) was computed from the summation of the means of four items E2 (I-T .72), E3 (I-T .74), E6 (I-T .70), and E10 (I-T .69).

Sympathy

Three parcels were created for the latent variable of sympathy. The first parcel labelled S_P1 was computed from the summation of the means of the three items of S1 (I-T .71), S3 (I-T .61), and S5 (I-T .68). The second parcel labelled S_P2 was computed from the summation of the means of the three items of S6 (.70), S8 (.62), and S9 (.76). The third parcel labelled S_P3 was computed from the summation of the means of the four items of S2 (I-T .70), S4 (I-T .67), S7 (I-T .73), and S10 (I-T .71).

Personal Distress

The latent variable of personal distress was represented by three parcels, with each computed from five items. The first parcel labelled PD_P1 was computed from the summation of the means of the five items of PD6 (I-T .70), PD7 (I-T .67), PD9 (I-T .61), PD10 (I-T .34), and PD12 (I-T .72). The second parcel labelled PD_P2 was computed from the summation of the means of the five items of PD3 (I-T .71), PD4 (I-T .73), PD13 (I-T .63), PD14 (I-T .43), and PD15 (I-T .67). The third parcel labelled PD_P3 was computed from the summation of the means of the five items of PD1 (I-T .69), PD2 (I-T .60), PD5 (I-T .72), PD8 (I-T .66), and PD11 (I-T .79).

Indifference

The latent variable of indifference was represented by three parcels, with two parcels computed from three items, and one parcel computed from two items. The first parcel labelled I_P1 was computed from the summation of the means of the three items, I2 (I-T .64), I10 (I-T .46), and I11 (I-T .72). The second parcel labelled I_P2 was computed from the summation of the means of the three items of I5 (I-T .65), I7 (I-T .48), and I8 (I-T .73). The third parcel labelled I_P3 was computed from the summation of the means of the two items of I1 (I-T .67) and I4 (I-T .59).

Factual and Emotive Information

The two latent variables of factual information and emotive information were each represented by three measurement items. The latent variable representing “factual” information was represented by the three items of FACT5 (I-T .45), FACT6 (I-T .48), and FACT8 (I-T .49). The latent variable of “emotive” information was represented by the three items of EMOT1 (I-T .35), EMOT3 (I-T .36), and EMOT4 (I-T .44).

Judgement

The latent variable of “judgement” was represented by the three measurement items of verdict, volition, and sentence.

Table 11 presents the latent variables of empathy, sympathy, personal distress, and indifference, and their respective item parcels, and the item-total correlations of the items that made up those parcels.

Table 11

Item Parcels for the Four Emotion Variables in the Measurement Model

Latent Variable	Item Parcel	Item	Item-total Correlation
Empathy	E_P1	E4	.70
		E8	.78
		E9	.67
	E_P2	E1	.68
		E5	.72
		E7	.77
	E_P3	E2	.72
		E3	.74
		E6	.70
		E10	.69
Sympathy	S_P1	S1	.71
		S3	.61
		S5	.68
	S_P2	S6	.70
		S8	.62
		S9	.76
	S_P3	S2	.70
		S4	.67
		S7	.73
		S10	.71
Personal Distress	PD_P1	PD6	.70
		PD7	.67
		PD9	.61
		PD10	.34
		PD12	.72
	PD_P2	PD3	.71
		PD4	.73
		PD13	.63
		PD14	.43
		PD15	.67
	PD_P3	PD1	.69

		PD2	.60
		PD5	.72
		PD8	.66
		PD11	.79
Indifference	I_P1	I2	.64
		I10	.46
		I11	.72
	I-P2	I5	.65
		I7	.48
		I8	.73
	I-P3	I1	.67
		I4	.59

7.4 Multi-group Confirmatory Factor Analysis Investigating

Differences in Photograph Mode Presentation

Reported earlier was the inconclusive research concerning the influence of photographic evidence on judgements conducted by Douglas et al. (1997), Kassin and Garfield (1991), and Pratt (2001), has not yielded consistent findings. Pratt maintains that the use of black and white photographs reduces the impact of the evidence when compared to colour photographs. Conversely, Douglas et al. found differences in emotional arousal, but no differences in verdict decisions when these two photographic modes were presented to participants. Similarly, Kassin and Garfield found no significant differences in verdict decision, but participants tended to ignore the rule of reasonable doubt and accepted less proof to convict the defendant. The conflicting findings on this issue prompted the examination of the possible differences that photograph mode may have on information processing. Prior to testing the hypothesised Schema and Posner structural path models, it was necessary to test the measurement model containing the models' latent constructs. In addition, the consistency of the measurement items' reliabilities across the two types of photographs was evaluated.

Investigation of group differences (black and white versus colour photographs) was conducted by testing the measurement model for significant differences in the measurement items' regression weights. If the analysis produces no significant differences in these regression weights, then the same regression weights can be used for both groups in the subsequent structural path analysis. If the regression weights are significantly different, then these differences must be accounted for in estimating the structural path models.

Figure 8 depicts the posited measurement model for the combined samples of black and white ($N = 251$) and colour photographs ($N = 247$) with the seven latent constructs and their associated measurement items. To test for differences in the regression weights (or factor pattern), Ho (2006) contends that two separate but identical models be proposed. The first model is labelled the "invariant" model which hypothesises that the regression weights will be the same for the two groups. The second model is labelled the "variant" model in which regression weights are hypothesised to be different between the two groups. The invariant and variant models can then be compared for model fit and the Critical Ratio test can be consulted for any significant differences in regression weights. Multi-group analysis allows for the testing of the hypotheses that (1) the invariant and variant models will have the same pattern of fixed and free parameters, and (2) the factor loadings will be the same across the two groups (i.e., black and white photographs and colour photographs). To determine the consistency of the measurement model across the two groups, the same pattern of fixed and free parameters was specified for the model for black and white photographs

and colour photographs, but the parameters were permitted to be estimated separately for the two groups.

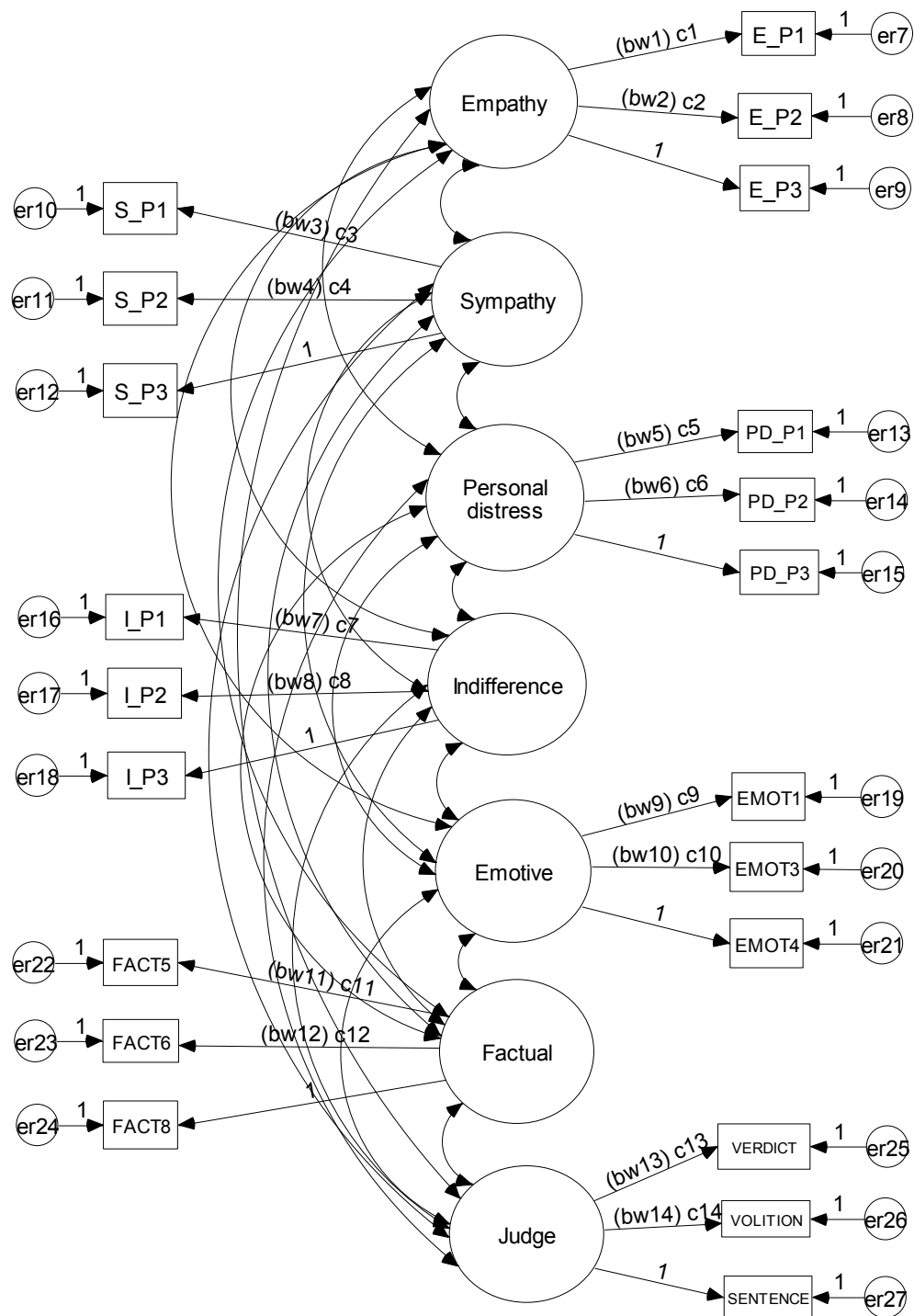


Figure 8. Measurement model representing emotions, emotive and factual information factors, and judgement.

For the variant measurement model, all factor loadings were freed (i.e., estimated), measurement items were allowed to load on one latent variable only (i.e., there are no cross-loadings), and the seven latent variables were allowed to correlate. The results indicated that the variant model fitted the data well (Appendix V). Although the chi-square value was significant, $\chi^2 (N = 498, df = 336) = 559.77, p < .001$, the incremental fit indices were all above .90 (i.e., NFI = .92, RFI = .91, IFI = .97, TLI = .96, and CFI = .97). Thus, the only possible improvement in fit for this model ranged from 3% to 9%. The RMSEA was .04 which indicated low error of approximation relative to the population. Together, these findings suggest that the variant model fitted the data well and that there may be significant differences in the measurement items' regression weights across the two groups of black and white photographs and colour photographs. The standardised regression weights (i.e., the factor loadings) for the measurement items were all positive and significant by the critical ratio test ($p < .05$). The standardised regression weights ranged from .43 to .98 for black and white photographs, and from .50 to .98 for colour photographs. The standardised regression weight values indicate that each measurement item was strongly related to its respective hypothesised latent variable.

For the invariant model, the same measurement model was utilised but the factor loadings were constrained to be identical for the black and white photographs group and the colour photographs group. The results showed that this model also fitted the data well. While a significant chi-square value was obtained $\chi^2 (N = 498, df = 350) = 593.96, p < .001$, the incremental fit indices were all above .90 (i.e., NFI = .92, RFI = .90, IFI = .97, TLI = .96, and CFI = .96). Thus, the only possible improvement in fit of this model ranged

from 3% to 10%. Similar to the variant model, the RMSEA for the invariant model was .04 which demonstrated low error of approximation relative to the population. To determine whether the variant or invariant model provided a better fit to the data, a chi-square difference test was conducted. Table 12 presents the goodness-of-fit indices and model comparison statistics for the variant and invariant models.

Table 12

Chi-square Goodness-of-Fit Values, Incremental Fit Indices, Akaike Information Criterion (AIC), RMSEA, and Model Comparisons for the Variant and Invariant Measurement Models

Model	χ^2	df	p	NFI	RFI	IFI	TLI	CFI	AIC	RMSEA
Variant	559.77	336	< .001	.92	.91	.97	.96	.97	811.76	.04
Invariant	593.96	350	< .001	.92	.90	.97	.96	.96	817.96	.04
Model Comparison	34.19	14	< .05	.00	.01	.00	.00	.01	6.20	.00

The model comparison indicated that the variant model fitted the sample covariance matrix significantly better than the invariant model, $\chi^2 (N = 498, df = 14) = 34.19, p < .05$. This is supported by the AIC measure which showed that the variant model achieved a lower value (811.76) than the invariant model (817.96) indicating that the variant model is not only more parsimonious but better fitting. The finding that the variant model is a significantly better fitting model suggests that there are significant differences between the regression weights (or factor loadings) across the two groups. Table 13 presents the standardised regression weights, residual and

explained variances for the measurement model across the two groups consisting of black and white (BWP) and colour photographs (CP).

Table 13

Standardised Regression Weights, Residual and Explained Variances for the Measurement Model for Black and White and Colour Photographs

Parameter	Standardised Regression Weights		Residual Variances		Explained Variances	
	BWP	CP	BWP	CP	BWP	CP
Empathy → E_P1	.88	.86	.22	.27	.78	.73
Empathy → E_P2	.96	.94	.08	.11	.92	.89
Empathy → E_P3	.88	.82	.23	.33	.77	.67
Sympathy → S_P3	.96	.92	.09	.15	.91	.85
Sympathy → S_P2	.85	.86	.28	.26	.72	.74
Sympathy → S_P1	.80	.83	.37	.32	.63	.68
Personal Distress → PD_P1	.84	.83	.29	.32	.71	.68
Personal Distress → PD_P2	.93	.92	.14	.15	.86	.85
Personal Distress → PD_P3	.88	.93	.22	.13	.78	.87
Indifference → I_P3	.81	.84	.35	.30	.65	.70
Indifference → I_P2	.87	.82	.25	.34	.75	.66
Indifference → I_P1	.84	.86	.30	.26	.70	.74
Emotive → EMOT1	.43	.62	.81	.61	.19	.39
Emotive → EMOT3	.50	.50	.75	.75	.25	.25
Emotive → EMOT4	.79	.61	.38	.62	.62	.38
Factual → FACT8	.58	.62	.66	.61	.34	.39
Factual → FACT6	.61	.53	.63	.71	.37	.29
Factual → FACT5	.68	.63	.53	.60	.47	.40
Judgement → Verdict	.98	.98	.04	.04	.96	.96
Judgement → Volition	.97	.94	.07	.12	.93	.88
Judgement → Sentence	.95	.94	.10	.12	.90	.88

Significant group differences were found with regard to the amount of variance explained for the 21 measurement items. For the black and white photographs group, the amount of variance explained ranged from 19% (EMOT1) to 96% (Verdict), and the residual or unexplained variance ranged from 4% to 81%. For the colour photographs group, the amount of variance explained ranged from 25% (EMOT3) to 96% (Verdict), with unexplained variance ranging from 4% to 75%.

The calculation of critical ratios for pair-wise comparisons among the factor loadings in the measurement model showed several significant differences between the two groups. The critical ratio for a pair of estimates allows for the testing of the hypothesis that the two parameters being compared are equal. Table 14 presents the pair-wise parameter estimates found to be significantly different between the two groups.

Table 14

Critical Ratios (CR) for Group Differences among Parameter Estimates in the Measurement Model

Parameter	Group	Path Coefficients	CR Difference Test
Sympathy → S_P1	BWP	.80*	2.61
	CP	.83*	
Personal Distress → PD_P1	BWP	.84*	-2.77
	CP	.83*	
Personal Distress → PD_P2	BWP	.93*	-2.60
	CP	.92*	
Emotive → EMOT1	BWP	.43*	3.62
	CP	.62*	

Note. * $p < .05$

S_P1 = item parcel (s1, s3, and s5)

PD_P1 = item parcel (pd6, pd7, pd9, pd10, and pd12)

PD_P2 = item parcel (pd3, pd4, pd13, pd14, and pd15)

BWP = black and white photographs

CP = colour photographs

From Table 14, it can be seen that four significant differences were found for the pair-wise parameter comparisons for the two groups. The factor loadings that were significantly different were associated with the items representing the latent variables of sympathy, personal distress, and emotive information. The analysis of the structural path models that follows (i.e., the Schema and Posner models) will take these pair-wise differences in regression weights into account by allowing them to vary freely across the two groups (i.e., black and white photographs and colour photographs).

7.5 *Multi-group Path Analysis: Evaluation of the Consistency of the Schema Model across Black and White and Colour Photographs*

The same sample of 498 participants utilised in confirming the measurement model was employed for this stage of the analysis. As such, 251 participants received the black and white photographs, and 247 participants received the colour photographs. Multi-group analysis was employed to determine the extent that the posited structural model was consistent across the two groups of photograph recipients (Appendix W). Two hypotheses were proposed to analyse group differences in the Schema model: (1) the path coefficients between the model's exogenous (i.e., justice and vengeance) and endogenous variables (i.e., the four emotions, factual and emotive information, and judgement) will exhibit the same structural pattern for black and white photographs and colour photographs, and (2) the path coefficients will be identical for the two groups. As the measurement model exhibited group differences for four measurement indicators' regression weights, these four regression weights were allowed to vary freely between the two photograph groups. Figure 9 presents the Schema model to be tested.

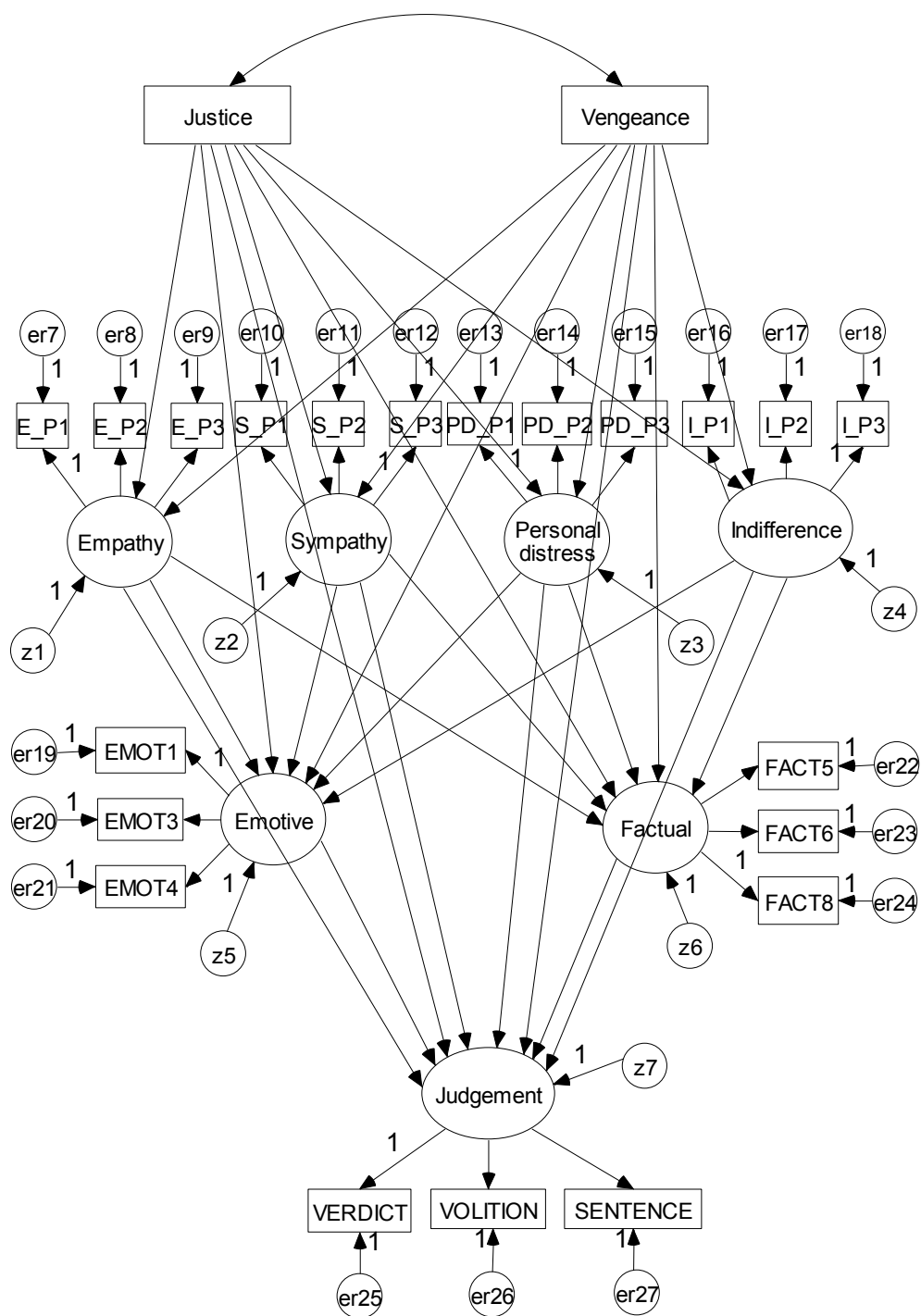


Figure 9. Schema structural path model.

For both the invariant and variant models, the factor loadings that were found to be non-significantly different across the two groups of photographs

in the measurement model were constrained to be identical for the black and white photographs group and the colour photographs group. The invariant model was specified to have the same pattern of path coefficients for the two groups. For the variant model, these path coefficients were specified to be estimated separately within each group.

The results indicated that the invariant model fitted the data well. A significant chi-square value was obtained $\chi^2 (N = 498, df = 444) = 1,156.58$, $p < .001$, however, the incremental fit indices were all close to, or at .90 (i.e., NFI = .85, RFI = .83, IFI = .90, TLI = .89, and CFI = .90). The only possible improvement in fit of this model ranged from 10% to 17%. These fit indices suggest that the posited model provided a reasonably good fit relative to the null model, and support the hypothesised structural pattern of the Schema model posited for black and white photographs and colour photographs.

For the variant model, the overall chi-square value was also significant, $\chi^2 (N = 498, df = 416) = 1,122.21$, $p < .001$, and the incremental fit indices were all close to, or at .90 (i.e., NFI = .85, RFI = .82, IFI = .90, TLI = .88, and CFI = .90). The only possible improvement in fit of this model ranged from 10% to 18%. These fit indices also indicated that the posited model provided a reasonably good fit relative to the null model. To determine whether the variant or invariant model provided a better fit to the data, a chi-square difference test was conducted. Table 15 presents the goodness-of-fit indices and model comparison statistics.

Table 15

Chi-square Goodness-of-Fit Values, Incremental Fit Indices, AIC, RMSEA, and Model Comparisons for the Variant and Invariant Path Models

Model	χ^2	df	p	NFI	RFI	IFI	TLI	CFI	AIC	RMSEA
Variant	1,122.21	416	< .001	.85	.82	.90	.88	.90	1,394.21	.06
Invariant	1,156.58	444	< .001	.85	.83	.90	.89	.90	1,372.58	.06
Model Comparison	34.37	28	> .05	.00	.01	.00	.01	.00	21.63	.00

The results of the model comparison show that the two models do not differ significantly in their goodness-of-fit indices, $\chi^2 (N = 498, df = 28) = 34.37, p > .05$. Two other measures were consulted to determine whether the variant or invariant model differed in their fit to the data. The AIC takes into account both model parsimony and model fit in model comparisons. Models that fit well receive low scores and poorly fitting models receive high scores. The AIC revealed that the invariant model achieved a lower value (1,372.58) than the variant (1,394.21) which indicates that the invariant model is both better fitting and more parsimonious than the variant model. The Parsimonious Normed Fit Index (PNFI) was also consulted. According to the PNFI measure, a more parsimonious model produces a higher value. For the Schema model, the PNFI for the invariant model was .75 and for the variant model it was .70. Thus, both the AIC and the PNFI indices indicate that the invariant model was the more parsimonious and better fitting of the two models. The calculation of critical ratios for pair-wise differences among the path coefficients in the Schema model identified several significant differences between the two groups. Table 16 presents the path coefficients that are significantly different.

Table 16

Critical Ratios (CR) for Group Differences among Parameter Estimates in the Schema Model

Parameter	Group	Path Coefficients	CR Difference Test
Personal Distress → Judgement	BWP	.04	-2.25
	CP	-.17*	
Empathy → Judgement	BWP	.10	2.48
	CP	.30*	
Sympathy → Factual	BWP	-.02	2.70
	CP	.27*	

Note. * $p < .05$

Three path coefficients were identified by the CR difference test, as significantly different between the two groups. While the better fitting invariant model suggests that the overall hypothesised pattern of relationships between the model's exogenous and endogenous variables is the same across the two photographs groups, the significant pair-wise comparisons suggest that some of the path parameters differ in strength between the two groups. The results indicate that compared to the black and white photographs group, recipients of the colour photographs who reported a higher experience of personal distress tended to render a more lenient judgement. Also for the colour photographs group, the higher their reported empathy, the more likely they were to render a harsher judgement. Compared to participants in the black and white photographs group, recipients of the colour photographs group who were more sympathetic tended to have a higher recognition of factual information.

Although pair-wise comparisons showed significant differences in three path coefficients, the better fitting invariant model suggests that the overall

pattern of structural relationships between the model's exogenous and endogenous variables (i.e., the path coefficients) is similar for both the black and white and colour photographs groups.

Figure 10 presents the Schema model with significant standardised path coefficients for black and white photographs (in brackets) and colour photographs. Paths that were not significant ($p > .05$) have not been included to reduce the complexity of the figure.

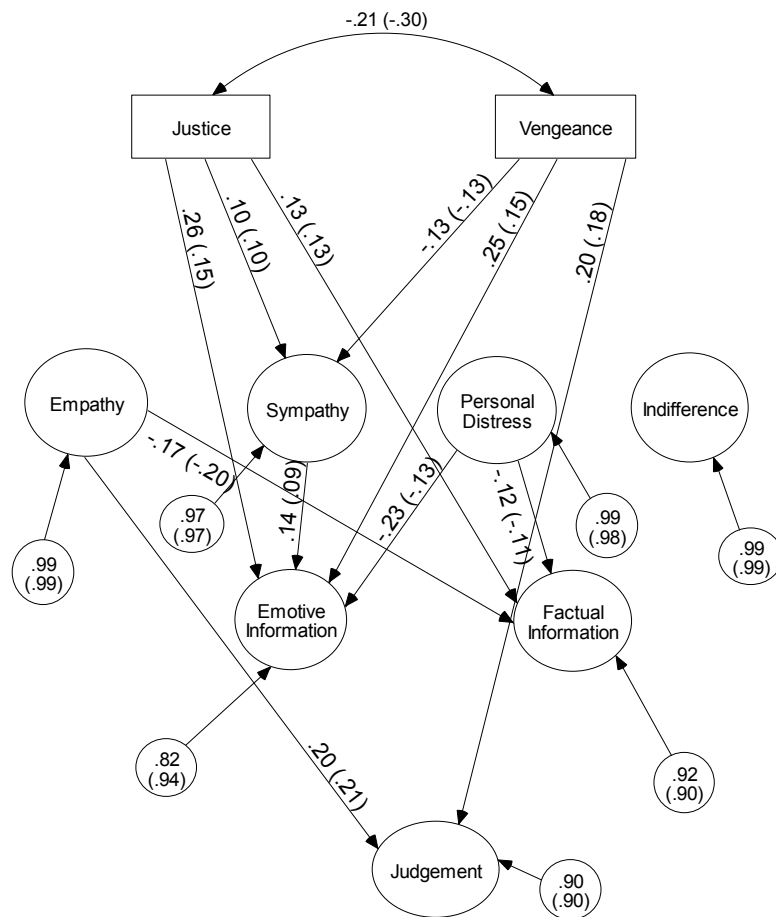


Figure 10. Structural Schema path model for black and white photograph and colour photograph participants. Presented paths are significant ($p < .05$) (in brackets for black and white photographs).

7.5.1 Standardised Path Coefficients for the Schema Model across Black and White (BWP) and Colour Photographs (CP)

For both photographs groups, the vengeance motive was found to be directly associated with the judgement of the defendant. Specifically, the more vengeance motivated the participants were, the harsher the judgement rendered (BWP $\beta = .18$; CP $\beta = .20$). Vengeance was also associated directly and positively with emotive information. Thus, the more vengeance oriented the participants were, the higher their recognition of emotive information (BWP $\beta = .15$; CP $\beta = .25$). The vengeance motive was also found to be negatively associated with sympathy (BWP $\beta = -.13$; CP $\beta = -.13$), and the less sympathy experienced by these participants, the lower their recognition of emotive information (BWP $\beta = .09$; CP $\beta = .14$).

The justice motive was directly and positively associated with emotive information, indicating that the more justice motivated the participants were, the higher their recognition of emotive information (BWP $\beta = .15$; CP $\beta = .26$). The positive path from the justice motive to factual information, indicates that the more justice motivated the participants, the higher their recognition of factual information (BWP $\beta = .13$; CP $\beta = .13$). Justice was also positively associated with sympathy, which in turn was associated with emotive information. Thus, the more justice motivated the participants were, the more sympathy they felt for the victim (BWP $\beta = .10$; CP $\beta = .10$), and the more sympathetic they felt, the higher their recognition of emotive information (BWP $\beta = .09$; CP $\beta = .14$).

Personal distress was not significantly associated with either justice or vengeance, nor was it found to be significantly associated with the judgement. Personal distress was, however, significantly and negatively

associated with both emotive and factual information. Thus, the higher the participants' reported personal distress, the less emotive information they recognised (BWP $\beta = -.13$; CP $\beta = -.23$) and the lower their recognition of factual information (BWP $\beta = -.11$; CP $\beta = -.12$).

Empathy was not significantly associated with either justice or vengeance, but it was significantly associated with factual information. The negative path suggested that the higher the participants' reported empathy, the less factual information they recognised (BWP $\beta = -.20$; CP $\beta = -.17$). The significant positive path from empathy to the judgement inferred that the higher the participants' reported empathy, the harsher their judgement (BWP $\beta = .21$; CP $\beta = .20$). This result suggests that the experience of empathy alone was sufficient to influence the judgement, regardless of a punishment philosophy.

7.5.2 Explanatory Power of the Schema Model

The explanatory power of the Schema model in predicting decision-making can be examined via the residual or unexplained variance. The residual or unexplained variance is arrived at by subtracting the explained variance value (squared multiple correlations) from 1.00. Table 17 presents the explained and unexplained variances for the Schema model.

Table 17

Explained and Unexplained Variances for the Schema Model

	Explained Variances		Residual Variances	
	BWP	CP	BWP	CP
Empathy	.01	.01	.99	.99
Sympathy	.03	.03	.97	.97
Personal Distress	.02	.01	.98	.99
Indifference	.01	.01	.99	.99
Emotive	.06	.18	.94	.82
Factual	.10	.08	.90	.92
Judgement	.10	.10	.90	.90

Table 17 shows that only 1% of the variance of the emotions of empathy and indifference was accounted for by the joint influence of justice and vengeance, leaving 99% of the variance unexplained for these two emotions. For sympathy, 3% of the variance was accounted for by the joint influence of justice and vengeance with 97% unexplained. For personal distress, 2% of the variance for the black and white photographs group was accounted for, leaving 98% of the variance unexplained. For the colour photographs group, 1% of the variance was accounted for by the joint influence of justice and vengeance on personal distress, leaving 99% of the variance unexplained. For the black and white photographs group, 6% of the variance of emotive information was accounted for by the joint influences of the two punishment motives and the four emotions (i.e., empathy, sympathy, personal distress, and indifference) and 94% was unexplained. For the colour photographs group, 18% of the variance for emotive information was accounted for by the joint influences of the two punishment motives and the

four emotions. Similarly, for factual information (black and white photographs group), 10% of the variance was accounted for by the joint influences of the punishment motives and the four emotions with 90% unexplained. For factual information (colour group), 8% of the variance was accounted for by the joint influences of the punishment motives and the four emotions leaving 92% unexplained.

For the variable of judgement, 10% of the variance was accounted for by the joint influences of the two punishment motives, the four emotions, and the factual and emotive information variables for the black and white photographs group, leaving 90% unexplained. For the colour photographs group, a similar amount of variance in judgement was accounted for (10%) by the combined influences of the two punishment motives, the four emotions, and the factual and emotive information variables, leaving 90% unexplained.

7.5.3 Summary of Results for the Schema Path Model

In summary, the results of the analysis provided partial support for the hypotheses posited for the decision-making process predicted for the Schema path model. The assertion by Pratt (2001) that colour photographs are more influential in decision-making than black and white photographs was not supported. This was reflected in the non-significant differences in the structural pattern across the two groups of photograph recipients. The expectation that the Schema model would provide a better fit to the data for the colour photographs was therefore not supported.

The hypothesis that justice motivated participants would be directly associated with a more lenient judgement was not supported. The hypothesis that justice would be associated with decreased empathy,

increased sympathy, decreased personal distress, and decreased indifference, which in turn would be associated with a higher recognition of factual than emotive information, leading to a more lenient judgement was partially supported. Justice was associated with sympathy, which in turn was associated with emotive information. Thus the more justice motivated the participants were, the more sympathy they felt for the victim. Unexpectedly, this higher experience of sympathy was associated with a higher recognition of emotive information. The expectation that justice motivated participants would be associated with a lower recognition of emotive information was not supported. Rather, justice was associated with a higher recognition of emotive information. A higher justice motivation was associated with a higher recognition of factual information as expected.

As hypothesised, the more vengeance motivated the participants were, the harsher the judgement rendered. The hypothesis that the vengeance motive would be associated with increased empathy, increased personal distress, decreased sympathy, and increased indifference, which in turn would be associated with an increased recognition of emotive information and a decreased recognition of factual information, was also only partially supported. The more vengeance motivated the participants were, the less sympathy they experienced for the victim as predicted. The lower reported experience of sympathy, however, was in turn was associated with a lower recognition of emotive information. Vengeance was directly associated with a higher recognition of emotive information as hypothesised, but was not associated with the recognition of factual information. The higher recognition of emotive information was not found to be related to the judgement rendered.

Although the variable of empathy was not predicted by either justice or vengeance, partial support was found for the hypothesis that empathy would be associated negatively with factual information, and positively associated with the judgement. This suggests respectively, that the more empathy felt for the victim, the lower the recognition of factual information, and the harsher the judgement rendered. Similarly, personal distress was not predicted by justice or vengeance, but it was associated with a lower recognition of both emotive and factual information.

7.6 *Multi-group Path Analysis: Evaluation of the Consistency of Posner's Model across Black and White and Colour Photographs*

The sample of 498 participants utilised in the multi-group analysis of the Schema model was also employed for the multi-group analysis of Posner's model. As such, 251 participants received black and white photographs, and 247 participants received colour photographs. The same multi-group analysis procedure was again employed to determine the extent that the posited structural model was consistent across the two groups of photograph recipients (Appendix X). Therefore, the two hypotheses tested were: (1) path coefficients between the model's exogenous and endogenous variables will exhibit the same structural pattern for black and white photographs and colour photographs, and (2) the path coefficients will be identical for the two groups. Based on the finding in the measurement model of group differences for four measurement indicators' regression weights, these four regression weights were allowed to vary freely between the two groups for Posner's model. Figure 11 presents Posner's model to be tested.

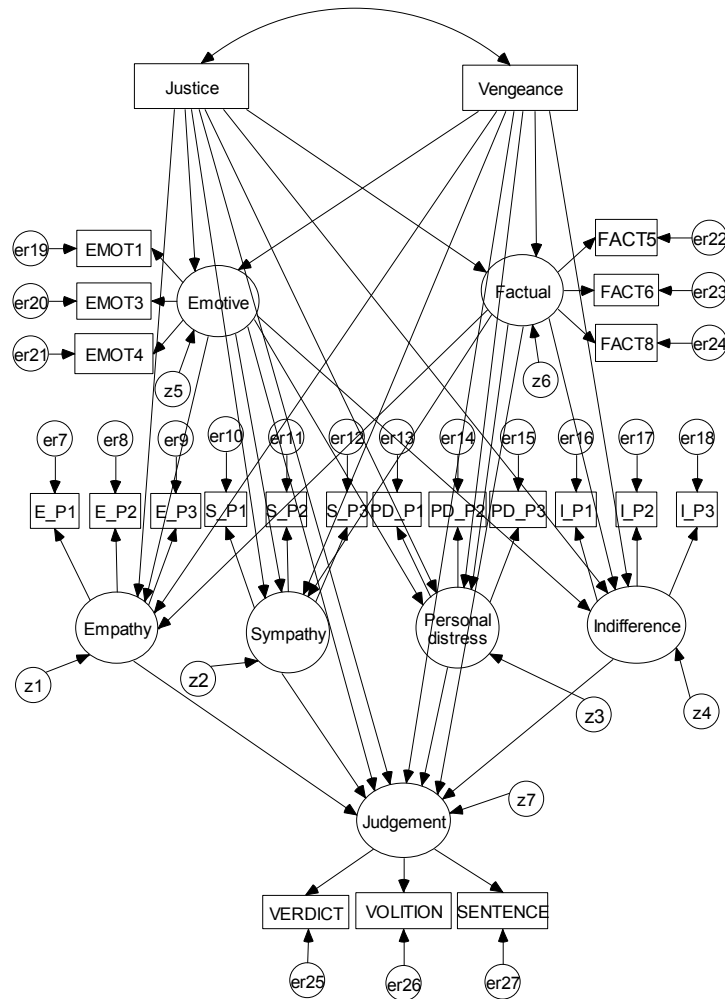


Figure 11. Posner's structural path model.

For the invariant model, the path coefficients together with the factor loadings that were found to be non-significantly different between the black and white and colour photographs groups were constrained to be identical across the two groups. The results indicated that this model fitted the data fairly well. While a significant chi-square value was obtained $\chi^2 (N = 498, df = 447) = 1,365.25, p < .001$, the incremental fit indices were close to .90 (i.e., NFI = .82, RFI = .80, IFI = .87, TLI = .85, and CFI = .87). The only possible improvement in fit of this model ranged from 13% to 20%. These fit indices

suggested that the posited model provided a reasonably good fit relative to the null model, supporting the hypothesised structural pattern of Posner's model posited for black and white photographs and colour photographs.

For the variant model, where the path coefficients were allowed to vary freely across the two photographs groups, the overall chi-square value was also significant, $\chi^2 (N = 498, df = 419) = 1,265.39, p < .001$. The incremental fit indices were close to .90 (i.e., NFI = .83, RFI = .80, IFI = .88, TLI = .86, and CFI = .88). Thus, the only possible improvement in fit of this model ranged from 12% to 20%. These fit indices indicated that this model also provided a reasonably good fit relative to the null model. To determine whether the variant or invariant model provided a better fit to the data, a chi-square difference test was conducted, the results of which are presented in Table 18.

Table 18

Chi-square Goodness-of-Fit Values, Incremental Fit Indices, AIC, RMSEA, and Model Comparisons for the Variant and Invariant Path Models

Model	χ^2	df	p	NFI	RFI	IFI	TLI	CFI	AIC	RMSEA
Variant	1,265.39	419	< .001	.83	.80	.88	.86	.88	1,531.39	.06
Invariant	1,365.25	447	< .001	.82	.80	.87	.85	.87	1,575.25	.06
Model Comparison	99.86	28	< .001	.01	.00	.00	.00	.00	43.86	.00

The results of the model comparison indicate that the variant model offered a significantly better fit to the data than the invariant model, $\chi^2 (N = 498, df = 28) = 99.86, p < .001$. Together with the AIC which revealed that the variant model achieved a lower value (1,531.39) than the invariant model

(1,575.25), it was concluded that the variant model represented a better fitting and more parsimonious model than the invariant model. The findings suggest that there may be differences in the path parameters between the black and white and colour photographs groups. The calculation of critical ratios for pair-wise differences among the path coefficients in Posner's model indicated several differences existed between the two photograph groups ($> \pm 1.96, p < .05$). Table 19 presents the parameter estimates found to differ between the two groups.

Table 19

Critical Ratios (CR) for Group Differences among Parameter Estimates in Posner's Model

Parameter	Group	Path Coefficients	CR Difference Test
Factual → Sympathy	BWP	.04	3.31
	CP	.37*	
Factual → Empathy	BWP	-.01	-4.58
	CP	-.91*	
Factual → Indifference	BWP	-.08	4.11
	CP	.46*	

Note. $p < .05$

Table 19 shows that three parameters were identified by the CR difference test to be significantly different between the two groups. These results indicate that factual information had different associations with three of the emotions (i.e., empathy, sympathy, and indifference) across the two photograph groups. For the colour photographs group, higher recognition of factual information was associated with higher sympathy and indifference. Additionally, a higher recognition of factual information was associated with

lower reported empathy for the colour photographs group, but not for the black and white photographs group. These results indicate that black and white photographs and colour photographs influenced decision-making differentially due to differences in the recognition of factual information.

Posner's model with significant standardised path coefficients for black and white photographs (in brackets) and colour photographs is presented in Figure 12. Paths that were not significant ($p > .05$) have not been included to reduce the complexity of the figure.

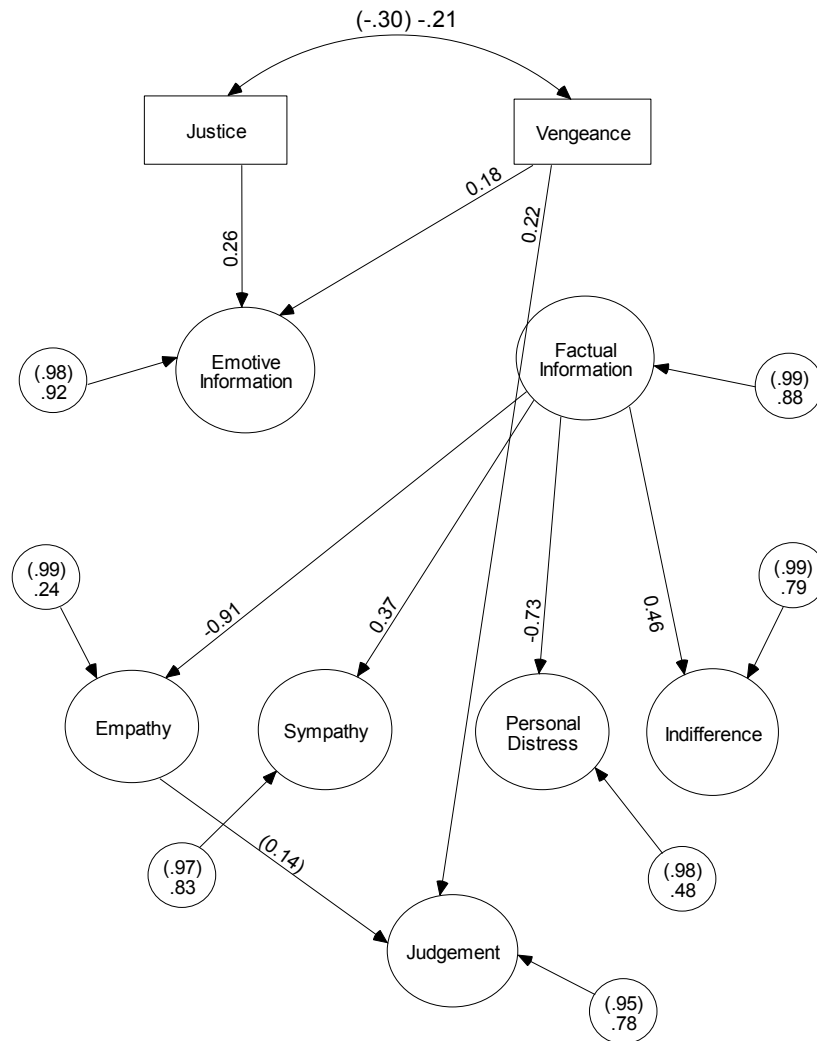


Figure 12. Structural path model (Posner's model) for black and white photograph and colour photograph participants. Presented paths are significant ($p < .05$) (in brackets for black and white photographs).

7.6.1 Standardised Path Coefficients for Black and White and Colour Photographs

The only significant path found for the black and white photographs group was between empathy and the judgement. However, neither the justice nor vengeance motive was found to be significantly associated with

the experience of empathy. Emotive information was also not found to be significantly associated with empathy. The positive association between empathy and the judgement indicated that the higher the empathy experienced, the harsher the judgement rendered ($\beta = .14$). This suggests that a person's empathic feelings alone were sufficient in the rendering of a harsh judgement.

For the colour photographs group, both the justice and vengeance motives were positively associated with the recognition of emotive information. Thus, the more justice or vengeance motivated the participants were, the higher their recognition of emotive information ($\beta = .26$ and $\beta = .18$ respectively). Vengeance was also positively and directly associated with the judgement ($\beta = .22$), suggesting that the more vengeance motivated the participants were, the harsher the judgement. These findings infer that the vengeance punishment philosophy alone appears to be sufficient to render a harsh judgement.

Neither the justice nor vengeance motive was found to be significantly associated with the recognition of factual information. Nevertheless, this information was associated with empathy, sympathy, personal distress, and indifference. Thus, the higher the participants' recognition of factual information, (1) the less empathic they were ($\beta = -.91$); (2) the more sympathetic they felt toward the victim ($\beta = .37$); (3) the lower their experience of personal distress ($\beta = -.73$); and (4) the higher their experience of indifference ($\beta = .46$). No significant paths were evident from the four emotions to the judgement, indicating that these emotions did not play a part in rendering a judgement.

7.6.2 *Explanatory Power of Posner's Model*

The explanatory power of Posner's model in predicting decision-making was examined via the model's residual or unexplained variance. Table 20 presents the explained and unexplained variances for Posner's model.

Table 20

Explained and Residual Variances for Posner's Model

	Explained Variances		Residual Variances	
	BWP	CP	BWP	CP
Empathy	.01	.76	.99	.24
Sympathy	.03	.17	.97	.83
Personal Distress	.02	.52	.98	.48
Indifference	.01	.21	.99	.79
Emotive	.02	.08	.98	.92
Factual	.01	.12	.99	.88
Judgement	.05	.22	.95	.78

Black and White Photographs Group

Table 20 shows that for the black and white photographs group, only 2% of the variance of emotive information was accounted for by the joint influence of justice and vengeance motives, with 98% of the variance unexplained. One percent of the variance of factual information was accounted for by the joint influence of justice and vengeance leaving 99% of the variance unexplained.

For the emotion variables, the variance accounted for by the joint influences of the two punishment motives and the emotive and factual information factors was 1% for empathy, 3% for sympathy, 2% for personal

distress, and 1% for indifference. This left unexplained variances of 99% for empathy, 97% for sympathy, 98% for personal distress, and 99% for indifference.

For the variable of judgement, 5% of the variance was accounted for by the joint influences of the two punishment motives, the emotive and factual information variables, and the four emotions, leaving 95% unexplained.

Colour Photographs Group

For the colour photographs group, 8% of the variance of emotive information was accounted for by the joint influence of justice and vengeance, and 92% of the variance was unexplained. Twelve percent of the variance of factual information was accounted for by the joint influence of justice and vengeance leaving 88% of the variance unexplained.

For the emotion variables, the variance accounted for by the joint influences of the two punishment motives and the emotive and factual information factors was 76% for empathy, 17% for sympathy, 52% for personal distress, and 21% for indifference. This left unexplained variances of 24% for empathy, 83% for sympathy, 48% for personal distress, and 79% for indifference.

For the variable of judgement, 22% of the variance was accounted for by the joint influences of the two punishment motives, the emotive and factual information variables, and the four emotions, leaving 78% unexplained.

7.6.3 Summary of Results for Posner's Path Model

In summary, the results of the analysis provided partial support for the hypotheses posited. While the Schema model showed no overall differences between black and white and colour photographs in the decision-making

process, Posner's model showed significant differences in the structural pattern across the two groups of photograph recipients. Specifically, Posner's model appears to be a better representation of decision-making for the colour photographs group than for the black and white photographs group.

The prediction that justice and vengeance motives should be directly associated with the judgement was partially supported, with the vengeance motive associated with a harsher judgement for the colour photographs group only. Vengeance was not found to be associated with the judgement indirectly through the factual and emotive information variables, or the four emotions as hypothesised. For the colour photographs group, however, both justice and vengeance were associated with a higher recognition of emotive information, partially supporting the hypothesis. Emotive information, however, was not found to be significantly associated with any further variables.

Neither of the two punishment motives was associated with the recognition of factual information, but factual information was significantly associated with the four emotions. Specifically, a higher recognition of factual information was associated with less empathy, more sympathy, less personal distress, and more indifference. None of these variables, however, were associated with the judgement rendered. The results from the colour photographs group have enabled tentative identification of the nature of indifference. That is, a higher recognition of factual information was associated with increased indifference.

Empathy was not predicted by either of the two punishment motives, or by the emotive information variable. However, for the black and white

photographs group, increased empathy was associated with a harsher judgement.

7.7 *Comparison of the Schema Model and Posner's Model*

In order to determine which model best represents decision-making, a comparison of the Schema model and Posner's model was conducted. Model comparison was conducted by subtracting the smaller chi-square value from the larger one, and by comparing the goodness-of-fit indices, incremental fit indices, and parsimonious fit indices. The comparison also included examining explained variances and residuals produced by the Schema and Posner models. Table 21 presents the model comparisons.

Table 21

Comparison of Absolute, Incremental, and Parsimonious Fit Measures of the Schema and Posner's Path Models

Model	χ^2	df	NFI	RFI	IFI	TLI	CFI	AIC	RMSEA	PNFI
Posner	1,265.39	419	.83	.80	.88	.86	.88	1,531.39	.06	.70
Schema	1,122.21	416	.85	.82	.90	.88	.90	1,394.21	.06	.70
Model Comparison	143.18	3	.02	.02	.02	.02	.02	137.18	.00	.00

The results of the model comparison showed that the Schema model produced a significantly smaller chi-square value than Posner's model, $\chi^2 (N = 498, df = 3) = 143.18, p < .05$. This suggests that the structural relationships between the exogenous and endogenous variables hypothesised in the Schema model offer a significantly better fit to the data set than those hypothesised for Posner's model. The AIC for the Schema model (1,394.21) was also lower than that for Posner's model (1,531.39).

Together, these findings suggest that overall the Schema model offers a better representation of the decision-making process than Posner's model.

The explanatory power of these two path models has been compared by examining their explained variances and the residual or unexplained variances. These results are presented in Table 22.

Table 22

Explained and Residual Variance for the Schema and Posner's Models

	Schema Model				Posner's Model			
	Explained Variance		Unexplained Variance		Explained Variance		Unexplained Variance	
	BWP	CP	BWP	CP	BWP	CP	BWP	CP
Empathy	.01	.01	.99	.99	.01	.76	.99	.24
Sympathy	.03	.03	.97	.97	.03	.17	.97	.83
Personal distress	.02	.01	.98	.99	.02	.52	.98	.48
Indifference	.01	.01	.99	.99	.01	.21	.99	.79
Emotive	.06	.18	.94	.82	.02	.08	.98	.92
Factual	.10	.08	.90	.92	.01	.12	.99	.88
Judgement	.10	.10	.90	.90	.06	.22	.94	.88

Note. BWP = black and white photographs; CP = colour photographs

The comparison of the explained and unexplained variances suggests that Posner's model has better explanatory power, but only for colour photographs.

7.8 *Summary of Results for the Schema Model and Posner's Model*

A comparison of the Schema and Posner models has revealed that several commonalities exist in the pattern of the structural paths for the two models. Common to both models, the punishment motives of justice and vengeance were positively associated with the emotive information variable. For both models, vengeance was also positively associated with judgement. Empathy was negatively associated with factual information in both models, but only for the colour photographs group in Posner's model. There was a positive association between empathy and judgement for both models, but only for black and white photographs in Posner's model. For both models, there was a negative association between personal distress and factual information, but only for colour photographs in Posner's model.

There were also several differences found in the patterns of the structural paths for the two models. For instance, in the Schema model only, there was a positive association between justice and factual information. Additionally, personal distress was negatively associated with emotive information, but not associated with the judgement rendered. Paths from justice and vengeance to sympathy and from sympathy to emotive information were found for the Schema model, but not for Posner's model. The Schema model did not show any paths leading to, or from indifference, whereas in Posner's model, factual information was positively associated with indifference. Posner's model also revealed an association between factual information and sympathy. The finding of commonalities and differences in the structural paths of the two models supports the existence of two decision-making processes. Thus, the sequential ordering of the

variables in each model provides evidence of two different approaches to information processing involved in decision-making. That is, when presented with the trial evidence, some individuals will initially experience an emotional response, but then turn their attention to the information presented before rendering a judgement. Alternatively, Posner's model indicates that some individuals tend to focus on all of the information presented in the first instance, and subsequently experience emotional reactions to this information, influencing the judgement rendered.

Overall, the hypothesis that Posner's model would be a better representation of decision-making for participants who received the black and white photographs was not supported. Similarly, the hypothesis that the Schema model would be a better decision-making model for participants who received the colour photographs was also not supported. Instead, the results suggest quite the opposite. That is, Posner's model was found to be a better representation of the decision-making process for the colour photographs group, and the Schema model more adequately explained an overall decision-making process that was similar for both the colour and black and white photographs groups.

CHAPTER 8

Discussion

8.1 Overview of the Study

The investigation into the relationship between justice and vengeance motives and the respondents' judgements, along with the roles that the variables of emotions, emotive information, and factual information play in decision-making processes was the substantive focus of this dissertation. To achieve this aim, a scale capable of measuring both affective and cognitive aspects of empathy, sympathy, personal distress, and indifference (the ESPI Scale) was developed. Further, two competing path models (i.e., Schema model and Posner's model) incorporating the hypothesised exogenous and endogenous variables were proposed. An ancillary goal was the evaluation and comparison of the adequacy of these two decision-making models when respondents read the trial transcript and were subjected to either black and white photographs or colour photographs. These aims were accomplished via a sequence of studies.

Study 1 involved the development of the ESPI Scale designed to tap into the four emotive states of empathy, sympathy, personal distress, and indifference that were considered to be experienced by decision-makers exposed to emotionally arousing information. A review of the literature demonstrated the need for a scale that assesses both affective and cognitive aspects associated with relevant emotion constructs. The second study comprised validity and reliability testing of the ESPI Scale through exploratory and confirmatory factor analysis, and convergent validity analysis. These analyses enabled an examination of the structural and

theoretical bases on which the four emotion constructs of the ESPI Scale were established.

The ESPI Scale was subsequently employed in the final study designed to evaluate the adequacy of the punishment motives, emotive constructs, and the two types of trial information within the Schema and Posner models in predicting decision-making of mock jurors (i.e., determining their judgement consisting of the verdict rendered, their perception of the defendant's volition, and sentence imposed) in an ambiguous trial. These two models were employed as the literature suggests they are pre-eminent representations of the way people make decisions in arriving at specific judgements. The overall results of this study suggested that Posner's model represented the decision-making process better when colour photographs were part of the evidence reviewed. However, the Schema model was shown to be capable of representing decision-making when *either* black and white or colour photographs were presented as evidence. These findings suggest that the Schema model is probably better suited than Posner's model in explaining the roles of attitudes, affect, and recognition of information in a murder trial decision-making process.

8.2 *The ESPI Scale*

The aims of studies 1 and 2 were to develop and to validate a scale (the ESPI Scale) that measures the emotions of empathy, sympathy, personal distress, and indifference. The four emotion constructs that comprised the ESPI Scale were operationalised from research conducted by Eisenberg et al. (1989), Eisenberg (2000), Eisenberg et al. (2003), Escalas and Stern (2003), Hoffman (1982, 1984b, 1987), and Sojka and Giese (1997). The ESPI scale differs from pre-existing measures as it was

developed to link the affective and cognitive aspects of the different emotion constructs together, rather than treating them as independent dimensions. Test of construct validity in Study 2 supported the hypotheses that 1) empathy and personal distress should be positively correlated due to their affective inclination, 2) empathy should be negatively correlated with sympathy and indifference as the latter two constructs tend to be less affective, 3) sympathy and indifference should be positively correlated as both are low in affect, 4) sympathy and personal distress should be negatively correlated due to their opposite affective involvement, and 5) personal distress and indifference should be negatively correlated due also to their opposite affective orientations. Convergent validity analysis supported the hypotheses that 1) empathy and personal distress should be positively correlated with the affective measures of EC-IRI, PD-IRI, and the EIS-R; and 2) sympathy and indifference should be negatively associated with the EC-IRI, PD-IRI, and the EIS-R.

While studies 1 and 2 of the research demonstrated the stability and validity of the ESPI subscales, they offered only partial support for the self/other focusing aspect proposed by Eisenberg et al. (1989) and Hoffman (1997). It was found, however, that the emotion constructs in this research aligned with Sojka and Giese's (1997) theoretical approach, supporting the argument that these emotions appear to consist of differing levels of affect and cognition.

The use of a deceased victim as the focal point in this research has provided support for the theoretical justification of the four emotion constructs measured by the ESPI Scale. Mehrabian and Epstein (1972) proposed that empathy is a trait or disposition that is shared by the empathiser and the

target. Similarly, the vicarious emotional response perspective advocated by Feshbach (1975) also ascribes to the idea of empathy as “shared” and that accuracy is vital in perceiving what the other person is feeling. Neither of these views of empathy was relevant within the context of the current research. Rather, the study’s findings revealed that the respondents’ decision-making process was a function of a variety of emotions, rather than just empathy. This suggests that empathy may not be an inborn trait as espoused by Mehrabian and Epstein. As the victim was deceased, the notion that empathy is a *shared* emotion, and that accuracy is required to comprehend what the victim was feeling, must also be refuted. It is more likely that empathy is a learned capacity as argued by Bandura (2002) and Vaknin (2004), as some participants reported experiencing empathy, while others did not. The motor mimicry (Bavelas et al., 1986, 1987), and emotional contagion (Doherty, 1997) theories of empathy must also be contested as the current study required participants to respond with more than a behavioural or complementary response, and an awareness of the victim’s situation was required. While the perspective/role taking approach, and in particular the imagine-self/imagine-other paradigm (Aderman et al., 1974; Archer et al., 1979; Batson et al., 1997) have relevance for empathy, they appear to be incomplete for an understanding of its nature. Eisenberg et al. (2003) and Hoffman (1984a, 1984b) argued that perspective taking or the “the ability to put oneself in the other person’s place” represents the cognitive aspect of empathy. This statement was incorporated into the items designed to tap into the cognitive aspect of this construct. It was found that perspective or role taking appears to reflect the cognitive aspect of empathy,

as indicated by the results discussed below in relation to correlations with the EC-IRI, PD-IRI, and the EIS-R.

The *imagine-self* design appears to relate more appropriately to personal distress rather than empathy when descriptions by Eisenberg et al. (1988) and Eisenberg et al. (1989) are examined. Eisenberg et al. (1988) found that personal distress was associated with feeling apprehensive, and further research by Eisenberg et al. (1989) established the involvement of an internal focus with the exclusion of external events. The operationalisation of personal distress in this study included these two aspects which tentatively supported personal distress as corresponding to the *imagine-self* design. This was demonstrated by the finding of a moderate correlation with the Davis (1980) concept of personal distress, described as involving personalised feelings of anxiety and discomfort.

In contrast, the *imagine-other* design appears to be more similar to the concept of empathy argued in this research. This approach, as previously explicated, involves instructing participants to imagine another's feelings or situation. This does not, however, allow empathy to occur spontaneously, but rather it alerts individuals to what is expected of them. Finally, empathy according to the psychoanalytic perspective (e.g., Basch, 1983; Havens & Palmer, 1984) appears to reflect sympathy rather than empathy, as it requires a degree of detachment. By combining the cognitive and affective aspects of empathy as recommended by Cliffordson (2001), the results of this study were found to correspond with Hoffman's (1982, 1984a, 1984b, 1987, 1991) promotion of empathy as both cognitive and affective in nature.

The results from the analyses of the ESPI Scale indicated that the four emotions are discrete, and that it is possible to obtain reliable measures of

emotion when the affective and cognitive aspects are combined, rather than treating them as parallel or separate contributing entities. The IRI developed by Davis (1983) measures empathy, posited as a multidimensional construct consisting of four separate factors; two cognitive and two affective. The cognitive subscales of the IRI consist of the perspective taking and fantasy subscales, while the affective contribution is assessed by the empathic concern and personal distress subscales. The present study found no significant correlation between the EC-IRI and the PD-IRI subscales, confirming Davis's suggestion that they are separate entities. These two subscales did, however, show moderate correlations with the EIS-R used as a measure of emotional intensity in this research. While these two factors were proposed as the affective aspects of empathy on the IRI, it appears that apart from affect, another aspect which is possibly cognitively oriented (i.e., perspective taking) exists within, rather than separately, to these two constructs.

In the present study, the perspective taking (or cognitive aspect) and the affective aspect were combined to measure empathy. It was found that the ESPI empathy subscale was moderately correlated with the EC-IRI suggesting some overlap and thus, similarity. Some overlap was also evident in the moderate positive correlation between the personal distress subscale of the ESPI Scale and the PD-IRI. The overlap indicates that these concepts share some affective content, but they also differ in other respects (i.e., the cognitive aspect). This is suggested by the finding that the EC-IRI and PD-IRI did not significantly correlate with each other, but were moderately related respectively to the empathy and personal distress subscales of ESPI Scale.

The ESPI Scale appears to have adequately identified the emotion of indifference, and to have differentiated empathy from sympathy. This is an important finding as Eisenberg (2000) maintained that empathy has routinely been confused with sympathy. The sympathy construct in this research was posited as being more cognitively than affectively oriented, while for indifference, it was assumed that both cognition and affect were equally low. As no cognitive measures of sympathy or indifference appear to be available, the correlations with the three affect measures of EC-IRI, PD-IRI, and the EIS-R were utilised to support their operationalisation. Escalas and Stern (2003) maintained that sympathy involves a certain amount of affective detachment. Sympathy in this study was negatively correlated with the three affect measures in this study. Significant negative associations were found between sympathy and the PD-IRI and the EIS-R. A negative but non-significant association was also found between sympathy and the EC-IRI. This indicates that some emotional distancing had occurred and thus supported the argument that sympathy is more cognitive in nature. Similarly, the indifference construct exhibited significant negative relationships with the EC-IRI and the EIS-R. While the association with the PD-IRI was also negative, it was non-significant. These associations further support the probable existence of a cognitive component. Further, sympathy and indifference did not significantly correlate with each other, suggesting they may not be related.

While Davis (1983) has asserted that the affective and cognitive aspects of empathy should be measured separately, the present research has found that combining these aspects for empathy and for personal distress has resulted in measures equally effective as those of Davis for

these two constructs. This supports Cliffordson's (2001) findings that affect and cognition should be combined to measure empathy, and that personal distress is a separate factor to empathy. The results also supported this approach for the sympathy and indifference constructs. However, further research needs to be carried out to provide additional validation and to expand on the utility of the ESPI Scale in a variety of situations.

8.3 *Structural Path Model: The Schema Model*

For the Schema model, it was hypothesised that justice and vengeance motives should be directly associated with either a more lenient or a harsher judgement, respectively. It was further anticipated that justice would be indirectly associated with a more lenient judgement through its associations with 1) increased sympathy, and decreased empathy, personal distress, and indifference; and 2) a lower recognition of emotive information, and a higher recognition of factual information. The indirect relationships between vengeance and a harsher judgement were expected through 1) increased empathy, personal distress, and indifference, and decreased sympathy; and 2) a higher recognition of emotive information and a lower recognition of factual information.

8.3.1 *Direct Paths from Justice and Vengeance Motives to the Judgement Rendered*

The results obtained from the path analysis offered only partial support for these predictions. The justice motive was found to have no significant direct association with the judgement rendered; however, there was a direct and significant positive association between the vengeance motive and a harsher judgement. The lack of an association between justice and judgement suggests that although the trial used was deemed to be

ambiguous, it may not have been ambiguous enough. That is, the heinousness of the crime may have been emotionally overwhelming, arousing mock jurors to bypass the justice dimensions of fairness and adherence to legal proceedings, and arousing feelings of vengeance in their judgement of the defendant. This is a strong possibility as justice and vengeance orientations may not be totally independent of each other. According to Ho et al. (2003) individuals may experience high justice and high vengeance orientations simultaneously. In arriving at their final decision, however, vengeance dimensions appear to have prevailed. The trade-off hypothesis of the ELM (Petty & Wegener, 1998) supports this suggestion. That is, as peripheral processing (the route utilised for affect) increases, central processing (the route utilised for cognition) decreases, and vice-versa.

The finding that vengeance was directly associated with a harsher judgement supports the assertions by Ho et al. (2002), Costanzo and Peterson (1994), and Nygaard (1994) that this motive is emotion-driven and is biased toward sentencing harshly. The notion that vengeance motivated punishment is disproportionate to the crime is reflected in the propensity of the respondents in this study to award a harsher judgement representing their guilty verdict, their perception of the defendant's high volition, and a more severe sentence rendered. Harsher sentencing by vengeance motivated individuals also supports the suggestion that the peripheral/affective processing route was utilised by these individuals, and that the reliance on affect to inform their decision-making tended to bias judgements. This result aligns with Wasserstrom's (1978) contention that vengeance motivated punishment consists of the three aims of responsibility,

proportionality, and retaliation. Consequently, it appears that the mock jurors in this study believed that the defendant murdered his wife intentionally, that the defendant's punishment should match the severity of the crime he committed, and that they felt morally correct in reciprocating the suffering of the victim by awarding a harsher sentence.

8.3.2 Indirect Paths from Justice and Vengeance Motives to the Judgement Rendered

The expectation that a sense of justice should be associated indirectly with a more lenient judgement through its associations with 1) increased sympathy, and decreased empathy, personal distress, and indifference; and 2) a lower recognition of emotive information, and a higher recognition of factual information was also only partially supported. Significant positive paths were evident from the justice motive to the emotive information, either directly or indirectly through sympathy. There was also a significant positive path from justice to the factual information, although none of these paths were further associated with the respondents' judgement.

The analysis showed that justice was associated with only one of the four emotions in this study, i.e., sympathy. This result indicated that the more justice motivated the respondents were, the more sympathy they felt for the victim. Increased sympathy was in turn associated with a higher recognition of the emotive information. The positive association between justice and sympathy aligns with the fundamental nature of justice as fair and equitable (Wrightsmann et al., 2002). That is, those espousing a justice motivation consider issues in an impartial, largely unemotional manner (Ho et al., 2002). This orientation corresponds to a sympathetic response as hypothesised, which is consistent with the assertion by Escalas and Stern (2003) that

sympathy also involves maintaining a degree of emotional distance in order to prevent affective arousal interfering with the ability to understand the other person's emotions or situation. The association between sympathy and a higher rather than lower recognition of the emotive information was therefore, contrary to expectations. This finding indicates that as sympathy increased toward the victim, the higher was the respondents' recognition of the emotive information from the trial. Goodman-Delahunty et al. (2005) suggested that both mitigating and aggravating circumstances of an offence are taken into consideration by justice motivated decision-makers. It is therefore possible, that when the justice-motivated respondents experienced sympathy, they gave more weight to the emotive information and treated it as the aggravating circumstances of the case. Consequently, the attention given to this heinous information may have biased their intentions to be just and their ability to maintain emotional distance. The lack of a significant association between the emotive information and the judgement rendered, suggests that this information did not play a role in how participants' arrived at their judgement. An alternative explanation for this finding is possible, however, when the remaining significant paths from justice are examined.

Significant associations were also evident from justice to both the emotive and factual information without the involvement of any of the emotions. While the finding that the justice motive's association with a higher recognition of emotive information was contrary to expectations, it is consistent with the suggestion by Brewer and Nakamura (1984) that schema irrelevant information (i.e., the emotive information) is sometimes remembered better because it is inconsistent with a concept or attitude (i.e., justice). In the current study, the emotive information was derived from the

photographs of the victim and the crime scene. If justice motivated individuals did not expect to be affected by this graphic evidence, or if the photographs affected their ability to be fair, then it is quite possible that this information commanded as much of their attention as the factual information.

Alternatively, the justice motive's association with both types of information can also be explained when the aims of justice are examined. Peterson (2001) described justice oriented decisions as being the result of thoughtful consideration of *all* of the information presented. This indicates that the respondents possibly gave credence to both types of information, and did not recognise mainly factual information as hypothesised. The comparison of this result to the previously discussed finding that justice was associated with increased emotive information through sympathy, raises the possibility that justice motivated jurors' feelings of sympathy may actually subvert a focus on the factual information. However, when sympathy toward the victim is not experienced by jurors, both types of trial information are attended to.

The hypothesised indirect relationships between vengeance and a harsher judgement through 1) increased empathy, personal distress, and indifference, and decreased sympathy; and 2) a higher recognition of emotive information and a lower recognition of factual information were again only partially supported. Significant negative paths were evident from vengeance to the emotive information through sympathy, and a significant direct positive path was found from vengeance to the emotive information. These paths, however, were not associated with the severity of the judgement rendered.

The finding that adherence to the vengeance motive was associated with decreased sympathy for the victim was consistent with the study's

hypothesis. However, the finding that sympathy was subsequently associated with a low recognition of emotive information was unanticipated. While these mock jurors experienced decreased sympathy and had a low recognition of emotive information, these factors were not considered relevant to their decision-making. These relationships support Costanzo and Peterson's (1994) and Nygaard's (1994) assertions that vengeance is primarily aimed at punishing the defendant for the emotional discomfort the crime has evoked, rather than following legal procedures by considering the evidence of the case. As vengeance is closely allied with anger (Ho et al., 2002; Posner, 2001), the intent of this study's mock jurors is obvious given that they experienced little sympathy for the victim and appeared to have given only cursory attention to the emotive information, but ultimately disregarded it in their decision-making.

In contrast, the positive direct association between vengeance and the emotive information indicates that when vengeance motivated mock jurors did not experience any emotional arousal in relation to the victim, their recognition of the emotive information was higher. This relationship supports Giner-Sorolla and Chaiken's (1997) contention that some individuals may elaborate on an issue in the direction of a desired outcome. Hence, the study's mock jurors may have sought out information (i.e., the emotive information) that justified rather than disputed their punishment philosophy without experiencing any of the emotions that were proposed in relation to the victim. As such, it appears that vengeance motivated anger may have accounted for this association.

Regardless of the participants' justice or vengeance orientations, empathy was found to be related to 1) a lower recognition of factual

information, and 2) a harsher judgement. The obtained negative association between empathy and the factual information indicates that the more empathic the mock jurors felt for the victim, the lower their recognition of factual information. The obtained positive association between empathy and the judgement rendered suggests that putting oneself in another person's place may provide sufficient motivation to arrive at a judgement. While these results offer only partially support for the hypothesised relationships between the variables, they do (in isolation) align with the directions posited based on Schema Theory. That is, it was anticipated that a vengeance motive would be associated with increased empathy, and in turn a lower recognition of factual information. A possible explanation for the lack of any significant association between the justice and vengeance motives and empathy may be explained by Sundby's (2003) assertion that empathic jurors tend to direct their energies toward personalising the victim and imagining themselves in the victim's place. This may also explain why less attention was given to the factual information. As Bandes (1996) has argued, empathy prevents attendance to trial information that lessens the culpability of the defendant. As such, it is possible that empathy may not be related to any pre-existing motives aimed at fairness or revenge. It is also conceivable that the harsher judgement associated with the experience of empathy could have been due to having imagined what the victim endured, and a subsequent desire to prevent the defendant from ever having the opportunity to inflict similar suffering or harm on any other individual. This is consistent with Sundby's (2003) report on the Capital Jury Project that found jurors who sentenced harshly had imagined themselves in the murder victim's place. This suggestion also aligns with findings by Deitz et al. (1982) that jurors who

reported feeling empathic tended to award higher prison sentences and believed more strongly in the defendant's guilt and intention to commit the crime. Therefore, in the present study, empathy for the victim on its own appears to provide sufficient impetus to award a more severe judgement for the heinous crime committed.

Similar to empathy, personal distress was not significantly associated with a punishment motive or the judgement rendered, but it was negatively associated with both the emotive and factual information. It was anticipated that the justice motive would be associated with a low recognition of emotive information through personal distress; and that the vengeance motive would be associated with a low recognition of factual information through personal distress. The finding of no significant associations between justice and vengeance motives and personal distress indicates that personal distress may not be influenced by intentions to be fair or to exact revenge. Rather, it seems more likely that as personal distress is a self-focused state of emotional arousal (Eisenberg, 2000), mock jurors who experienced this emotion attempted to relieve their distress by utilising the strategy suggested by Eisenberg et al. (1989) of "reducing contact with the aversive, arousal-producing cues" (p. 55). Ultimately, the experience of personal distress was not taken into consideration in mock jurors' decision-making.

8.3.3 Multi-group Path Analysis of the Schema Model Across Black and White and Colour Photographs

This research also investigated the possibility that the Schema model is a more efficient representation of the decision-making process when colour photographs rather than black and white photographs were used. A comparison of the variant Schema model (i.e., the black and white and colour

photographs groups were hypothesised to have different path coefficients) and invariant Schema model (i.e., the two groups were hypothesised to share the same path coefficients) showed that the invariant model offered a better fit to the data. This finding suggests that the overall pattern of structural relationships between the model's variables was similar across the black and white and colour photographs conditions. This is supported by the finding of no significant differences between the path coefficients across the two photograph conditions by means of the critical ratio test. Thus, Pratt's (2001) assertion that colour photographs are more important than black and white photographs in influencing the decision-making process could not be supported by the Schema model. However, this result is consistent with Kassin and Garfield's (1991) finding that the differential presentation of graphic evidence produced no significant differences in judgement.

8.3.4 Overview of the Schema Model

A primary focus of this study was to evaluate the adequacy of the Schema model incorporating punishment motives, emotions, and trial information in explaining mock juror's decision-making processes in arriving at a judgement in a murder trial. Results from the path analysis provided partial support for the hypotheses, and indicated that the most salient factors associated with the judgement rendered were vengeance and empathy. Thus, the findings of the significant paths yielded by this model were mostly in line with the tenets of the ELM and Schema Theory. While ELM theory provided the theoretical justification for the hypothesised directions that justice and vengeance motivated individuals should take in relation to their decision-making process, Schema Theory provided the framework for the hypothesised directions that the emotions would take with regard to their

associations with emotive and factual information. Specifically, it was expected that consistent with the ELM, individuals who were motivated to be fair and to consider the evidence without emotional bias would employ the central information processing route, while those who were motivated by a desire for revenge would employ the peripheral route and be less detailed in the processing of the trial information.

While the justice motive was not significantly associated with a more lenient judgement, the vengeance orientation was found to be associated significantly with a harsher judgement, which is consistent with having processed the trial information in a peripheral manner. The central processing strategy of the ELM paralleled with the justice motive was expected to correspond to increased sympathy, but decreased empathy, personal distress, and indifference. The results obtained revealed that justice was associated only with the emotion of sympathy. The association between justice and increased feelings of sympathy for the victim was based on the cognitive and affective similarities of these two variables. Specifically, sympathy was established as an emotion that involves feeling “moved” by another’s situation, and emotional distance to impartially think through the evidence. The obtained relationship between justice and sympathy supported the notion of feeling moved and impartiality in consideration of the trial information, which is in line with the central information processing strategy. The relationship between sympathy and a higher recognition of emotive information was not as hypothesised. It did, however, correspond with the premise of congruent information according to Schema Theory when a re-evaluation of justice was undertaken. A possible explanation for this finding is that justice appears to be aimed at examining all the information

presented (i.e., not just central/cognitive details but peripheral/affective details as well). When the justice orientation is viewed in this way, this relationship is then consistent with the two theories.

There were also positive paths between the justice motive and the emotive and factual information factors, without a significant association through sympathy. While the association between the justice motive and the factual information was consistent with the hypothesis, and thus both the ELM and Schema Theories, the association between justice and the emotive information was consistent with the two theories only when a revised view of justice was considered.

In addition, vengeance motivated individuals utilising the peripheral processing route, were expected to experience decreased sympathy owing to the higher affective rather than cognitive investment by their vengeance orientation. As well, associations were expected between vengeance and increased empathy, personal distress, and indifference. This expectation was based on the notion of empathy and personal distress as emotions involving high affective arousal (e.g., Eisenberg et al., 2003; Hoffman, 1982, 1984b, 1987). This is consistent with the vengeance motive which was posited as an emotion-driven motive (Ho et al., 2003). The hypothesised association between vengeance and indifference was based on the assumption that both variables correspond to the peripheral mode of information processing. Peripheral processing involves low ability or motivation with simple, extraneous cues as the main focus which appears to be characteristic of both vengeance and indifference.

The only significant association found was between vengeance and decreased sympathy, which is in line with the participants' use of the

underlying strategy of peripheral processing. The subsequent association with a low rather than a high recognition of emotive information was inconsistent with the peripheral processing strategy. As such, decreased sympathy may have had the effect of decreasing rather than increasing the focus on emotive information. The association between the vengeance orientation and a higher recognition of emotive information without an association through sympathy was consistent with the use of peripheral processing by these mock jurors.

Empathy and personal distress were established as being primarily vengeance motivated, and as such were expected to be associated with a higher recognition of emotive information and a lower recognition of factual information. While empathy was not found to be associated with a higher recognition of emotive information, it was found to be associated with less factual information which is consistent with Schema Theory. The peripheral processing strategy employed by empathic individuals was also apparent in the association with a harsher judgement rendered. Personal distress was associated with a lower recognition of both emotive and factual information. While the lower recognition of emotive information is incongruent with Schema Theory, the lower recognition of factual information does adhere to the theory.

Another focus of this study was whether the hypothesised structural relationships between the variables would differ when colour or black and white photographs were used. It was argued that colour photographs have the potential to arouse emotions to a greater extent than black and white photographs, and thus would have a greater influence on the decision-making process (Douglas et al., 1997). The results from the multi-group

comparison revealed, however, that the decision-making process was similar regardless of whether the respondents received the black and white or colour photographs. This suggests that colour photographs did not impact mock jurors' decision-making more significantly than the black and white photographs.

8.4 *Structural Path Model: Posner's Model*

For Posner's model, it was hypothesised that justice and vengeance motives should be associated with the judgement decision, both directly (as for the Schema model) and indirectly. Specifically, it was hypothesised that being justice motivated would be indirectly associated with a more lenient judgement through a higher recognition of factual information and a lower recognition of emotive information, which in turn would be associated with increased sympathy, and decreased empathy, personal distress, and indifference. Being vengeance motivated was hypothesised to be indirectly associated with a harsher judgement through a higher recognition of emotive information and lower recognition of factual information, which in turn would be associated with increased empathy, personal distress, and indifference, and decreased sympathy.

Posner's model included the same variables as the Schema model, but with the emotive and factual information hypothesised to precede the emotion factors. This model was proposed in order to assess whether the decision-making processes employed by the study's respondents in arriving at their judgement of the defendant followed the same dynamics as those posited in the Schema model. The decision-making processes based on Posner's observations also appear to originate with an individual's punishment philosophy (i.e., fixed attributes such as justice or vengeance).

A justice or vengeance motive should be associated with the decision rendered through emotive or factual information, to which individuals may respond with emotions.

8.4.1 *Direct Paths from Justice and Vengeance Motives to the Judgement Rendered*

Results from the path analysis of Posner's model also offered only partial support for the hypotheses posed regarding the direct relationships among the model's exogenous and endogenous variables. The results showed that the pattern of associations between justice and vengeance motives and the judgement rendered was similar to the pattern of associations found between these variables in the Schema model. Thus, the vengeance motive was directly associated with a harsher judgement.

8.4.2 *Indirect Paths from Justice and Vengeance Motives to the Judgement Rendered*

The results further showed that the pattern of indirect associations between justice and vengeance orientations and the emotive information factor was the same as the pattern of associations found for these variables in the Schema model. Similar to the Schema model, empathy was found to be also associated with a harsher judgement in Posner's model, although this association was significant only for the black and white photographs condition. All other significant results found were for the colour photographs condition, as follows.

Justice and vengeance motives were not found to be associated either positively or negatively with the recognition of factual information. Nevertheless, factual information was associated with all four emotion constructs. Specifically, a higher recognition of factual information was

related to participants feeling more sympathy, and increased indifference for the victim. Conversely, a higher recognition of factual information was associated with less empathy and less personal distress experienced for the victim. None of these emotions, however, were associated with the judgement rendered.

The suggestion by Posner (2001) that it is the presentation of stimuli (i.e., factual and emotive information in this study) that appears to evoke emotions is therefore partially supported. While emotive information was not found to be associated with the four emotions, the factual information taken from the trial impacted differentially on the experience of emotions. Consistent with Posner's suggestion, it seems that the study's participants may indeed have initially viewed the photographic evidence as increased information or a cognitive improvement. The finding that none of the emotions for the colour photographs condition were associated with the judgement rendered, supports Posner's further contention that individuals will often resort to their fixed attributes or preferred states (i.e., motives) once the intensity of their emotion has subsided. This assertion is plausible in light of the direct path observed from vengeance to a harsher judgement.

The only significant association between the variables for the respondents who viewed the black and white photographs was between empathy and a harsh judgement. This result is similar to that found for the Schema model lending further support to (1) Sundby's (2003) findings that empathic individuals tended to have imagined themselves in the victim's place, and (2) Deitz et al.'s (1982) finding that such jurors consequently sentence harshly. As this result was for black and white photograph recipients only, the possibility exists that this photograph modality had a

greater potential to arouse the participants' imaginations. Several possibilities exist for the absence of an association between empathy and the judgement rendered under the colour photographs condition. Given that the majority of the results were obtained under the colour photographs condition, and that the factual information was the most important variable in relation to the emotions, it is likely that the explicit nature of the colour photographs may not require engaging one's imagination to understand what the victim experienced.

8.4.3 *Multi-group Path Analysis of Posner's Model Across Black and White and Colour Photographs*

The results of the multi-group analysis revealed a number of significant differences between path coefficients for the black and white and colour photographs conditions. This indicated that the hypothesised associations between the exogenous and endogenous variables in the posited structural model appeared to vary as a function of the presentation of the black and white and colour photographs.

Direct pair-wise comparisons of the path coefficients revealed that factual information had significant associations with three of the emotions (i.e., empathy, sympathy, and indifference) for the colour photographs condition but not for the black and white photographs condition. A higher recognition of factual information was associated with higher reported sympathy and indifference and lower reported empathy. A comparison of the variant model (in which colour and black and white photographs were hypothesised to yield different path coefficients) with the invariant model (in which colour and black and white photographs were hypothesised to yield similar path coefficients) revealed that the variant model offered a better fit to

the data. This indicates that the overall pattern of structural relationships between the model's exogenous and endogenous variables differed as a function of the presentation of the two photograph modes. The finding that the decision-making process was better represented when colour photographs were presented is not consistent with Posner's (2001) inference that black and white photographs may serve as a cognitive improvement for decision-makers. The result suggests rather, that colour photographs have the potential to influence what information is focused on, and to arouse emotions.

8.4.4 Overview of Posner's Model

Posner's (2001) inference that it is the consideration of the emotive and factual information that evokes emotions allowed for an alternative decision-making model to be tested. Posner suggested that individuals have fixed attributes or preferred states which were equated with existing motives in this study. In addition, Posner stated that attending to certain stimuli (such as the emotive and factual information in this study) may produce an emotional state that influences decision-making. Consequently, individuals' fixed attributes may or may not change. The significant results obtained were generally in line with Posner's theory of information processing.

Neither justice nor vengeance motives were found to be associated with the factual information or the four emotions. They were, however, both positively associated with the emotive information, but this information was not found to be further associated with either the emotions or the judgement rendered.

The most important variable in Posner's model appears to be the factual information, which had associations with all four of the emotions.

Three of these associations partially supported the hypothesis that a justice motive should be associated with a higher recognition of factual information, which in turn should be associated with increased sympathy, and decreased empathy, and personal distress.

A higher recognition of factual information was also found to be associated with increased indifference. As previous research has not investigated the indifference construct within a legal context, only tentative hypotheses could be formulated on the possible associations with the exogenous and endogenous variables in Posner's model. It was therefore proposed that the relationship between justice and a more lenient judgement should be associated with a higher recognition of factual information and decreased indifference. The relationship between vengeance and a harsher judgement was expected to be associated with a lower recognition of factual information and increased indifference. The finding that factual information was associated with increased indifference has face validity, as relying on the factual evidence and not on the emotive material reflects an affective indifference to the suffering of the victim. In addition, this study proposed that indifference may reflect low motivation and low ability. This seems to be a possibility given that indifferent participants appeared to have not cared very much about the victim's plight to decide on a judgement.

It was also anticipated that Posner's model should be a better overall representation of decision-making under the black and white photographs condition, due to the emotive and factual information being of primary concern, and the emotions as secondary to this process. Posner suggested that individuals can be aware that certain stimuli (such as colour photographs) may influence their emotions and will focus on other stimuli in

an effort to control their feelings. The finding that the decision-making process was better represented when colour photographs were presented failed to support Posner's (2001) inference that black and white photographs would be a cognitive improvement.

8.5 *Summary of Main Findings*

The theoretical frameworks of the ELM, Schema Theory, and suggestions by Posner (2001) enabled this study to investigate two decision-making models. Exploration into the relationships between the variables considered to represent these models has suggested that individuals make decisions via two different overall processes as a function of whether colour or black and white photographs were part of the evidence reviewed. When photographs were presented, these two processes depended on whether:

- 1) individuals attended to the emotive and factual information first; or
- 2) emotional arousal was experienced first.

Analyses of the models revealed that the most important variables in the decision-making processes were the vengeance motive and empathy. These two variables were associated with the rendering of a harsher judgement. These associations support the peripheral processing route of the ELM, and hypotheses within the Schema model. In previous research (e.g., Douglas et al., 1997; Kassin & Garfield, 1991) there has been a lack of consistency in the findings with respect to the use of crime scene evidence presented in either black and white or colour. The proposition that black and white and colour photographs differentially influence the impact that the evidence makes was evident in Posner's model but not in the Schema model. The finding that the colour photographs had a greater impact on decision-making for Posner's model provides an understanding of the

differences that this type of trial evidence makes on decision-making. Indeed, the assertion by Curriden (1990) that such graphic evidence increases the risk that the prosecution will win appears to be supported by this finding. Clearly, the presentation of colour photographs in a murder trial may have implications for the legal process that requires further investigation.

8.6 *Implications*

This study has attempted to contribute to the understanding of decision-making utilising the ELM, Schema Theory, and suggestions by Posner (2001). Apart from partially supporting these theoretical frameworks, the findings from the study have implications for decision-making processes, judgements, jurors, and victims. The findings obtained from the two decision-making models posited in this study indicated that individuals may process the overall factors of a murder trial in two different ways. For example, the Schema model posited that punishment motives would be associated with the judgement rendered through empathy, sympathy, personal distress, and indifference, and emotive and factual information. For Posner's model, it was expected that punishment motives should be associated with judgement through the emotive and factual information, and the four emotions. While not all paths in these models were found to be significant, those that were, generally aligned with the hypotheses posited.

As most members of the Australian general public will be required to perform jury duty at some time in their lives, an elucidation of what factors are taken into account in their decision-making is important. While Australian jurors do not determine sentences, they are required to give a verdict. This study has shown that for the Schema and Posner models, empathy and the vengeance motive were the most important factors in the respondents'

decision-making, and both were associated with a harsh judgement. As the judgement variable in the present study reflects the verdict, volition, and the sentence rendered, it can be concluded that empathy and vengeance were associated with a guilty verdict, higher perception of volition on the part of the defendant, and a harsher sentencing decision. These findings may be of future importance in light of a recent seminar held by the Institute of Criminology and the New South Wales Law Reform Commission (2006). The Chief Justice invited several notable speakers to discuss the possible role of jurors in the sentencing phase of criminal trials, instead of just delivering a verdict. Should this become a reality, it would be imperative that the legal profession be aware of the potential influence that jurors' pre-existing motives such as vengeance, and emotions such as empathy, may have on their decision-making processes.

The finding that black and white photographs had less impact than colour photographs on decision-making in Posner's model has implications for the presentation of such evidence. In the past, forensic photographers mainly utilised black and white photographs. Present-day police photography utilises digital cameras with colour images (Stewart, 2002). Curridden (1990) suggested that defence attorneys in the American legal system have concerns about the inflammatory nature of graphic evidence such as colour photographs increasing the chances that the prosecution will win. The finding in this study that colour photographs were influential in Posner's model suggests that a less arousing mode of evidence presentation may need to be considered. For example, in this study the photographs showed the victim's face. This may have had the effect of personalising the victim to some participants as evidenced by the emergence of empathic feelings.

That is, Wispé (1986) argued that empathy is strongly associated with imagination, and is a type of emotional, cognitive, and social bonding mechanism. To minimise bias such as this, perhaps only the injuries should be shown, as it is possible that these photographs were too emotionally arousing and served to block the participants' justice motives. It may also be possible that simply hearing about the extent of a victim's injuries is enough to arouse empathy or vengeance. Future research into the effects of verbal or diagrammatic descriptions of injuries may elucidate the differences that these types of evidence have compared to the impact of photographs. This strategy may help to avoid arousing emotions that are not helpful to what Sallmann and Willis (1984) term "rational" decision-making in civil and criminal trials.

While the present research was based on a criminal trial, the newly developed ESPI Scale could also be employed in research examining civil trials. Apart from its use as a measure of emotions toward the victim (as in this study), it could also be applied as a measure of jurors' emotions in relation to the defendant's circumstances. That is, a defence that emphasises a history of abuse toward the perpetrator may elicit empathy. Moreover, the ESPI Scale may also be a useful tool for clinical research in assessing responses to scenarios involving anti-social behaviour, bullying, or any situation that involves gauging these particular emotional reactions towards others. By understanding the underlying emotions of these individuals, clinicians can work toward strengthening areas where such deficits exist. The scale could also potentially be used to screen health care providers or carers for their attitudes toward clients' or patients' situations in order to ascertain job suitability. Identifying providers or caregivers who are

unable to sympathise with clients, or who express indifference toward their plight, may contribute to remedial training strategies. It may also be useful in assessing responses to proposed advertising campaigns that involve a desired emotional investment such as anti-smoking, anti-drink driving, anti-drugs appeals, and domestic violence prevention. Visions of smoking-related cancers, deaths from drink driving, loss of financial security and estrangement from friends and family through drug taking, and the effects of domestic violence have been presented in recent health promotion campaigns. However, the long-term success of these campaigns may hinge on individual differences in the reactions these issues elicit. For example, a recent Government advertisement depicts a young man dying of smoking-related lung cancer in hospital with his mother stating that he only has weeks not months to live. While this advertisement may initially elicit empathy, repetitive exposure to such images might eventually result in indifference. What is not known is how long or how many viewings this takes to occur. Therefore, the ESPI Scale may be useful in identifying the length of time it takes for an advertisement to lose its effectiveness, thus providing an indication of appropriate timing for the introduction of a new strategy.

8.7 *Limitations*

As with any empirical research, this study has several limitations that should be considered. The most obvious limitation is that this study utilised mock jurors and a simulated trial experience. Therefore, issues such as the method of trial transcript presentation, length of the decision-making process, and juror rather than jury (or group) decision-making are potential sources of error.

The trial transcript was presented to the participants in typed form, which is not the case in an actual trial. Given that access to actual jurors is notoriously difficult, Pritchard and Keenan (1999) recommended the use of either videotaped trials or typed transcripts, as the performance of mock jurors is relatively equal for both presentation modes. One advantage of a typed transcript is that it is not susceptible to bias resulting from the likeableness or dislike of any of the individuals involved in the trial based on physical or verbal cues. Additionally, in an actual trial, jurors may either request the trial transcripts during deliberation if they are unsure of a particular point that was made (Pritchard & Keenan) or take notes during the trial if allowed by the judge (Tinsley, 2000). As such, the transcript in this research could be considered to be closer to that available to actual jurors, compared to a videotaped trial. Nevertheless, the photographs presented along with the transcript could have negated the unbiased nature of a written presentation given the potential visual cues of the victim's physical features.

Another limitation is that the actual case presented may not have been adequately ambiguous. That is, while the information contained in the transcript was considered to be balanced for and against the defendant, the wording of the facts appears to have had a pro-prosecutorial bias which is reflected by the overwhelming guilty verdict arrived at by the study's respondents. Although the transcript was assessed for ambiguity by three psychologists in the legal arena, it should have been pilot tested with members of the general public to assess the actual extent of the ambiguity.

A further limitation rests with the fact that the study's participants read the transcript in the privacy of their own homes and at a time convenient to their circumstances, which is not equivalent to the situation experienced by

actual jurors. For example, the overall time required for participants to read the transcript, view the photographs, arrive at a verdict, rate the defendant's degree of intent to murder, and decide on an appropriate sentence length was between 30 minutes to one hour. This could be considered a potential confound as actual jurors receive much more evidence over a longer period of time than required for this study. Pritchard and Keenan (1999) suggested, however, that arriving at a verdict in a short period of time is not an indication that jurors have not given careful consideration to the evidence.

An additional limitation concerns the fact that actual jurors do not decide the verdict independently as was the case in this study, but rather as a group. Tinsley (2000) reviewed findings from actual trials conducted in New Zealand in 1998. In 26 trials, 22% of jurors changed their verdict during the deliberation process. In 20 cases, it was found that the deliberation process was significantly affected by dominant jurors. Dominant jurors tended to try to control and intimidate other jurors rather than facilitate structured decision-making based on the evidence. MacCoun (1990) and London and Nunez (2000) assert that in some instances such as those presented by Tinsley, it appears group deliberation may exaggerate or attenuate biases that affect decision-making. For example, Kaplan and Miller (1978) found a dual effect of deliberation; pre-deliberation responses were polarised and reliance on individual biases was reduced as evidence favouring a verdict became more salient. Kaplan and Miller suggested that as facts from a case are reiterated, that jurors may take more evidence into account than they considered in the pre-deliberation phase. MacCoun, however, asserts that when the evidence presented is ambiguous (such as in the present research) biases will be strongest and more difficult to eliminate.

It is possible, therefore, that in this study the effects of jurors' emotional biases (i.e., empathy and vengeance) could have been attenuated if group deliberation had taken place. Alternatively, as suggested by Horowitz et al. (2006) and Haegerich and Bottoms (2000) deliberation may polarise attitudes toward their pre-deliberation empathic tendencies. This would appear to be a real possibility given that Fiske and Linville (1980) argue that schema-relevant information (i.e., either emotive or factual) is most accessible during retrieval. That is, those emotions may be prompted in response to deliberation.

This study also failed to investigate the possibility of a third decision-making model. That is, it is possible that the sequential ordering of the exogenous and endogenous variables in the study's models could have impacted the results obtained. For example, it is conceivable that emotions may directly influence the punishment motives of individuals, with these motives leading individuals, in turn, to search for emotionally arousing information (i.e., congruent information) which further arouses their existing emotional state. This suggestion could have allowed for an investigation into whether justice and vengeance motives are activated by emotions experienced, or vice-versa.

While this study assessed for differences in decision-making when black and white and colour photographs were presented, it did not include a control condition in which no photographic material was presented. This limitation has resulted in no baseline information with which to compare the effects of photographic evidence per se. Thus, the results obtained from the inclusion of the colour and black and white photographs conditions do not

allow for any definitive conclusions to be drawn about the influences of these two conditions on the respondents' decision-making processes.

Another possible limitation is that this study did not consider the possibility that the participants may have attributed some of the blame to the victim for her misfortune. Lerner, Goldberg, and Tetlock (1998) found that anger activates blame attributions, and vice versa. This gives rise to the question as to whether emotions act as the trigger for behaviour such as decision-making, or whether they are simply a by-product of the blaming process. Future research may find it productive to test this assumption given that vengeance in this study was directly associated with the judgement, while the emotions were not taken into account.

A final limitation of the study relates to its cross-sectional design and the correlational nature of the results obtained. Specifically, the cross-sectional design and the correlational results do not allow for any definitive conclusions to be drawn about the causal effects that the exogenous variables may have on the criterion variables in the two models. While time and resource constraints necessitated this approach, a longitudinal design would have been better suited to investigate and to test for the sequential causal ordering of the factors.

8.8 Conclusion

This study attempted to add to the existing research on information processing with regard to the ELM, decision-making, and Schema Theory. It has clearly contributed to the understanding of the constructs of empathy, sympathy, personal distress, and indifference. The consolidation of various definitions and measures to represent the four emotions that consist of both

affective and cognitive elements appears to more accurately reflect the constructs than when they are treated as separate aspects.

The assessment and comparison of the Schema model and Posner's model demonstrated that information processing is not constrained to a single overall process, but appears to be a process involving many combinations of factors. The need to account for the relationships among the multiple contributors to the process is important. While the lack of associations between some of the variables was disappointing, this study may satisfy Feigenson's (2001) request for psychological enquiry into how various "emotions figure in law" and "how particular emotional reactions to certain acts shared by (the vast majority of?) members of the community constitute the bedrock of many of our moral rules that are also legal rules" (p. 453). In this respect, the research has gone some way in explaining the role that these emotions do, or do not play in decision-making processes, as well as paving the way for future investigation into the roles that emotions play within the context of other types of crime.

References

- Aderman, D., Brehm, S. S., & Katz, L. B. (1974). Empathic observation of an innocent victim: The Just World revisited. *Journal of Personality and Social Psychology*, 29, 342-347.
- American Psychological Association. (2004). *What makes kids care? Teaching gentleness in a violent world*. Retrieved October 7, 2004, from <http://www.apa.org/pubinfo/altruism.html>
- Archer, R. L., Foushee, H. C., Davis, M. H., & Aderman, D. (1979). Emotional empathy in a courtroom situation: A person-situation interaction. *Journal of Applied Social Psychology*, 3, 275-291.
- Australian Bureau of Statistics. (2005a). *Survey participant information – Australian demographic statistics, June 2005* (ABS Publication No. 3101.0). Retrieved August 8, 2006, from <http://abs.gov.au>
- Australian Bureau of Statistics. (2005b). *Survey participant information – Population by age and sex, December 2005* (ABS Publication No. 3201.0). Retrieved August 8, 2006, from <http://abs.gov.au>
- Australian Bureau of Statistics. (2006). *2006 year book Australia*. Canberra: Author.
- Bachorowski, J., & Braaten, E. B. (1993). Emotional intensity: Measurement and theoretical implications. *Personality and Individual Differences*, 17, 191-199.
- Bandes, S. (1996). Empathy, narrative, and victim impact statements. *The University of Chicago Law Review*, 63, 361-412.
- Bandura, A. (2002). Reflexive empathy: On predicting more than has ever been observed [Open peer commentary of empathy: Its ultimate and proximate bases]. *Behavioral and Brain Sciences*, 25, 1-72.

- Basch, M. F. (1983). Empathic understanding: A review of the concept and some theoretical considerations. *Journal of the American Psychoanalytic Association, 31*, 101-126.
- Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective taking: Imagining how another feels versus imagining how you would feel. *Personality and Social Psychology Bulletin, 23*, 751-758.
- Batson, C. D., Klein, T. R., Highberger, L., & Shaw L. L. (1995). Immorality from empathy-induced altruism: When compassion and justice conflict. *Journal of Personality and Social Psychology, 68*, 1042-1054.
- Batson, C. D., O'Quin, K., Fultz, J., Vanderplas, M., & Isen, A. M. (1983). Influence of self-reported distress and empathy on egoistic versus altruistic motivation to help. *Journal of Personality and Social Psychology, 45*, 706-718.
- Bavelas, J. B., Black, A., Lemery, C. R., & Mullett, J. (1986). "I show how you feel": Motor mimicry as a communicative act. *Journal of Personality and Social Psychology, 50*, 322-329.
- Bavelas, J. B., Black, A., Lemery, C. R., & Mullett, J. (1987). Motor mimicry as primitive empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 317-338). New York: Cambridge University Press.
- Bodenhausen, G. V., & Wyer, R. S. (1985). Effects of stereotypes on decision making and information-processing strategies. *Journal of Personality and Social Psychology, 48*, 267-282.
- Brewer, W. F., & Nakamura, G. V. (1984). The nature and function of schemas. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 119-160). Hillsdale, NJ: Lawrence Erlbaum.

- Bridgeman, D. L., & Marlow, D. (1979). Jury decision making: An empirical study based on actual felony trials. *Journal of Applied Psychology*, 62, 91-98.
- Buss, A. (2001). *Psychological dimensions of the self*. Thousand Oaks, CA: Sage.
- Byrne, B. M. (2001). *Structural equation modelling with AMOS: Basic concepts, applications, and programming*. Mahwah, NJ: Lawrence Erlbaum.
- Cacioppo, J. T., & Petty, R. E. (1989). The Elaboration Likelihood Model: The role of affect and affect-laden information processing in persuasion. In P. Cafferata & A. M. Tybout (Eds.), *Cognitive and affective responses to advertising* (pp. 69-89). Toronto, MA: Lexington Books.
- Carroll, J. S., Perkowitz, W. T., Lurigio, A. J., & Weaver, F. M. (1987). Sentencing goals, causal attributions, ideology, and personality. *Journal of Personality and Social Psychology*, 52, 107-118.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39, 752-766.
- Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic information processing within and beyond the persuasion context. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 212-252). New York: The Guilford Press.
- Chlopan, B. E., McCain, M. L., Carbonell, J. L., & Hagen, R. L. (1985). Empathy: Review of available measures. *Journal of Personality and Social Psychology*, 48, 635-653.

- Clark, M. S., & Isen, A. M. (1982). Towards understanding the relationship between feeling states and social behavior. In A. H. Hastorf & A. M. Isen (Eds.), *Cognitive social psychology* (pp. 73-108). New York: Elsevier-North Holland.
- Cliffordson, C. (2001). Parents' judgments and students' self-judgments of empathy. The structure of empathy and agreement of judgments based on the Interpersonal Reactivity Index (IRI). *European Journal of Psychological Assessment*, 17(1), 36-47.
- Costanzo, M., & Peterson, J. (1994). Attorney persuasion in the capital penalty phase. *Journal of Social Issues*, 50, 125-148.
- Cotton, K. (2003, March). Developing empathy in children and youth. *The International Child and Youth Care Network*, 50. Retrieved September 30, 2004, from <http://www.cyc-net.org/cyc-online/cycol-0303-empathy.html>
- Curriden, M. (1990). Crime scene videos: Dead bodies on videotape worry criminal defense lawyers. *American Bar Association Journal*, 76, 32.
- D'Arms, J. (2000). Symposium on law, psychology and the emotions: Empathy and the evaluative inquiry. *Chicago-Kent Law Review*, 74, 1467-1488.
- Dane, F. C. (1990). *Research methods*. Belmont, CA: Brooks/Cole.
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *Catalog of Selected Documents in Psychology*, 10(4), 1-17.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44, 113-126.

- Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). The effect of perspective taking on the cognitive representation of persons: A merging of self and other. *Journal of Personality and Social Psychology*, 70, 713-726.
- Deitz, S. R., Blackwell, K. T., Daley, P. C., & Bentley, B. J. (1982). Measurement of empathy toward rape victims and rapists. *Journal of Personality and Social Psychology*, 43, 372-384.
- Deutsch, F., & Madle, R. A. (1975). Empathy: Historic and current conceptualizations, measurement, and a cognitive theoretical perspective. *Human Development*, 18, 267-287.
- Dillon, C., Keogh, E., Freeman, J., & Davidoff, J. (2000). Aroused and immersed: The psychophysiology of presence. *Goldsmiths College*. Retrieved January 1, 2007, from <http://homepages.gold.ac.uk/immediate/immersivetv/P2000-dillon.htm>
- Doherty, R. W. (1997). The Emotional Contagion Scale: A measure of individual differences. *Journal of Nonverbal Behavior*, 21, 131-154.
- Douglas, K. S., Lyon, D. R., & Ogloff, J. R. P. (1997). The impact of graphic photographic evidence on mock jurors' decisions in a murder trial: Probative or prejudicial? *Law and Human Behavior*, 21, 485-501.
- Dutch, R. A. (Ed.). (1982). *Roget's Thesaurus of English words and phrases*. New York: Penguin Books.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Orlando, FL: Harcourt Brace College.
- Eisenberg, N. (2000). Emotion, regulation, and moral development. In S. T. Fiske, D. L. Schacter, & C. A. Zahn-Waxler (Eds.), *Annual Review of Psychology* (Vol. 51, pp. 665-697). Palo Alto, CA: Annual Reviews.

- Eisenberg, N., Fabes, R. A., Miller, P. A., Fultz, J., Shell, R., Mathy, R. M., et al. (1989). Relation of sympathy and personal distress to prosocial behavior: A multimethod study. *Journal of Personality and Social Psychology*, 57, 55-66.
- Eisenberg, N., Losoya, S., & Spinrad, T. (2003). Affect and prosocial responding. In R. J. Davidson, K. R. Scherer, & H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 787-803). New York: Oxford University Press.
- Eisenberg, N., Schaller, M., Fabes, R. A., Bustamante, D., Mathy, R. M., Shell, R., et al. (1988). Differentiation of personal distress and sympathy in children and adults. *Developmental Psychology*, 24, 766-775.
- Eisenberg, N., Shea, C. L., Carlo, G., & Knight, G. P. (1991). Empathy-related responding and cognition: A "chicken and the egg" dilemma. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behaviour and development, Vol. 2: Research* (pp. 63-88). New York: Erlbaum.
- Eisenberg, N., & Strayer, J. (1987). Critical issues in the study of empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 3-16). New York: Cambridge University Press.
- Eisenberg, N., Wentzel, M., & Harris, J. D. (1998). The role of emotionality and regulation in empathy-related responding. *School Psychology Review*, 27, 506-522.
- Eiser, J. R. (1986). *Social psychology: Attitudes, cognition and social behavior*. Cambridge, UK: Cambridge University Press.

- Enders, C. K. (2003). Using the expectation maximization algorithm to estimate coefficient alpha for scales with item-level missing data. *Psychological Methods, 8*, 322-337.
- Escalas, J. E., & Stern, B. B. (2003). Sympathy and empathy: Emotional responses to advertising dramas. *Journal of Consumer Research, 29*, 566-578.
- Feigenson, N. (2001). "Another thing needful": Exploring emotions in law. (Reviewing *The Passions of Law*, Susan A. Bandes, ed.). *Constitutional Commentary, 18*, 445-461.
- Feigenson, N., & Park, J. (2006). Emotions and attributions of legal responsibility and blame: A research review. *Law and Human Behavior, 30*, 143-161.
- Feshbach, N. D. (1975). Empathy in children: Some theoretical and empirical considerations. *Counseling Psychologist, 5*, 25-30.
- Finkel, N. J., & Parrott, W. G. (2006). *Emotions and culpability: How the law is at odds with psychology, jurors, and itself*. Washington, DC: American Psychological Association.
- Fishfader, V. L., Howells, G. N., Katz, R. C., & Teresi, P. S. (1996). Evidential and extralegal factors in juror decisions: Presentation mode, retention, and level of emotionality. *Law and Human Behaviour, 20*, 565-572.
- Fiske, S. T. (1982). Schema-triggered affect: Applications to social perception. In M. S. Clark and S. T. Fiske (Eds.). *Affect and cognition: The seventeenth annual Carnegie Symposium on Cognition* (pp. 55-78). Hillsdale, NJ: Erlbaum.

- Fiske, S. T. (2004). *Social beings: Core motives in social psychology*. Hoboken, NJ: John Wiley & Sons.
- Fiske, S. T., & Linville, P. W. (1980). What does the schema concept buy us? *Personality and Social Psychology Bulletin*, 6(4), 543-557.
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition* (2nd ed.). New York: McGraw-Hill.
- Forgas, J. P. (1991). Affect and social judgments: An introductory review. In J. P. Forgas (Ed.), *Emotion and social judgments* (pp. 3-29). Oxford: Pergamon Press.
- Forgas, J. P. (1995). Mood and judgment: The Affect Infusion Mood (AIM). *Psychological Bulletin*, 117(1), 39-66.
- ForsterLee, L., ForsterLee, R., Wilson, H., & Ho, R. (2007). The impact of note-taking and justice-vengeance motives on juror decision-making in a criminal murder trial. In G. R. Burthold (Ed.), *Psychology of decision making in legal, health care and science settings* (pp. 185-201). New York: Nova Science Publishers.
- ForsterLee, L., Horowitz, I. A., ForsterLee, R., King, K., & Ronlund, L. (1999). Death penalty attitudes and juror decisions in Australia. *Australian Psychologist*, 34, 64-69.
- Fultz, J., Schaller, M., & Cialdini, R. B. (1988). Three related but distinct vicarious affective responses to another's suffering. *Personality and Social Psychology Bulletin*, 14, 312-325.
- Geuens, M., & De Pelsmacker, P. (2001). *Validity and reliability of scores on the reduced Emotional Intensity Scale*. Retrieved September 30, 2004, from http://www.feb.ugent.be/fac/research/WP/Papers/wp_01_114.pdf

- Giner-Sorolla, R., & Chaiken, S. (1997). Selective use of heuristic and systematic processing under defense motivation. *Personality and Social Psychology Bulletin*, 23, 84-97.
- Goodman-Delahunty, J., ForsterLee, L., & ForsterLee, R. (2005). Dealing with the guilty offender: Psychological aspects of sentencing decisions in research, practice and policy. In N. Brewer & K. Williams (Eds.), *Psychology and law: An empirical perspective*. New York: Guilford.
- Gruen, R. J., & Mendelsohn, G. (1986). Emotional responses to affective displays in others: The distinction between empathy and sympathy. *Journal of Personality and Social Psychology*, 51, 609-614.
- Haegerich, T. M., & Bottoms, B. L. (2000). Empathy and jurors' decisions in patricide trials involving child sexual assault allegations. *Law and Human Behavior*, 24, 421-448.
- Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 787-803). New York: Oxford University Press.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Hale, J. L., Lemieux, R., & Mongeau, P. A. (1995). Cognitive processing of fear-arousing message content. *Communication Research*, 22, 459-474.
- Hall, S. (2002, April 24). Trial halted as "massacre" video makes juror faint. *The Guardian*. Retrieved June 2, 2004, from LexisNexis Academic database.

- Havens, L. L., & Palmer, H. L. (1984). Forms, difficulties, and tests of empathy. *Hillside Journal of Clinical Psychiatry*, 6(2), 285-291.
- Ho, R. (2006). *Handbook of univariate and multivariate data analysis and Interpretation with SPSS*. Boca Raton, FL: Chapman & Hall/CRC.
- Ho, R., ForsterLee, L., & ForsterLee, R. (2003). The impact of justice and vengeance motives on sentencing decisions. In S. P. Shohov (Ed.), *Advances in Psychology Research*, Vol. 28, (pp. 163-180). Hauppauge, NY: Nova Science.
- Ho, R., ForsterLee, L., ForsterLee, R., & Crofts, N. (2002). Justice versus vengeance: Motives underlying punitive judgements. *Personality and Individual Differences*, 33, 365-377.
- Hoffman, M. L. (1982). Development of prosocial motivation: Empathy and guilt. In N. Eisenberg (Ed.), *Development of prosocial behavior* (pp. 281-313). New York: Academic Press.
- Hoffman, M. L. (1984a). Empathy, its limitations, and its role in a comprehensive moral theory. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Morality, moral behaviour, and moral development* (pp. 283-302). New York: John Wiley & Sons.
- Hoffman, M. L. (1984b). Interaction of affect and cognition in empathy. In C. E. Izard, J. Kagan, & R. B. Zajonc (Eds.), *Emotions, cognition, & behavior* (pp. 103-131). New York: Cambridge University Press.
- Hoffman, M. L. (1987). The contribution of empathy to justice and moral judgment. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 47-80). New York: Cambridge University Press.

- Hoffman, M. L. (1991). Empathy, social cognition, and moral action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behaviour and development: Vol. 1. Theory* (pp. 275-301). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge, UK: Cambridge University Press.
- Horowitz, I. A., Kerr, N. L., Park, E. S., & Gockel, C. (2006). Chaos in the courtroom reconsidered: Emotional biases and juror nullification. *Law and Human Behavior*, 30, 163-181.
- Institute of Criminology. (2006). *Masters of fact and law? A place for juries in sentencing*. Retrieved October 19, 2006, from <http://www.criminology.law.usyd.edu.au/prevseminars/Se041006.htm>
- Johnston, G. (1976). *The Australian pocket Oxford dictionary*. Melbourne, Australia: Oxford University Press.
- Kaplan, M. F., & Miller, L. E. (1978). Reducing the effects of juror bias. *Journal of Personality and Social Psychology*, 36, 1443-1455.
- Kassin, S. M., & Garfield, D. A. (1991). Blood and guts: General and trial-specific effects of videotaped crime scenes on mock jurors. *Journal of Applied Social Psychology*, 21, 1459-1472.
- Kilgore, D. W. (2001). A group learning intervention into how women learn empathy in prison. *Adult Education Quarterly*, 51, 146-164.
- Krebs, D. (1975). Empathy and altruism. *Journal of Personality and Social Psychology*, 32, 1134-1146.

- Lerner, J. S., Goldberg, J. H., & Tetlock, P. E. (1998). Sober second thought: The effects of accountability, anger, and authoritarianism on attributions of responsibility. *Personality and Social Psychology Bulletin*, 24, 563-574.
- Leventhal, H., & Scherer, K. (1987). The relationship of emotion to cognition: A functional approach to a semantic controversy. *Cognition and Emotion*, 1(1), 3-28.
- London, K., & Nunez, N. (2000). The effect of jury deliberations on jurors' propensity to disregard inadmissible evidence. *Journal of Applied Psychology*, 85(6), 932-939.
- MacCoun, R. J. (1990). The emergence of extralegal bias during jury deliberation. *Criminal Justice and Behavior*, 17, 303-314.
- McCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modelling. *Psychological Methods*, 1, 130-149.
- McGuirk, R. (1996, October 15). Juror faints at trial details. *The Daily Telegraph*. Retrieved June 2, 2004, from LexisNexis Academic database.
- Marsh, H. W., Hau, K., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, 11(3), 320-341.
- Martin, L. L. (2000). Moods do not convey information: Moods in context do. In J. P. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp. 153-177). Cambridge, UK: Cambridge University Press.

- Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality, 40*, 525-543.
- Mehrabian, A., & O'Reilly, E. (1980). Analysis of personality measures in terms of basic dimensions of temperament. *Journal of Personality and Social Psychology, 38*, 492-503.
- Mehrabian, A., Young, A. L., & Sato, S. (1988). Emotional empathy and associated individual differences. *Current Psychology: Research and Reviews, 7*, 221-240.
- Murphy, P. (2003). Juries: What they think of us. *Journal of the Bar Association of Queensland, 14*, 16-17.
- Nygaard, R. L. (1994). "Vengeance is mine", says the Lord. *America, 171*, 6-9.
- Office of the Queensland Parliamentary Counsel. (2003). *Evidence Act 1995*. Retrieved June 29, 2004, from <http://www.legislation.qld.gov.au>
- Pennington, N., & Hastie, R. (1990). Practical implications of psychological research on juror and jury decision-making. *Personality and Social Psychology Bulletin, 16*(1), 90-105.
- Peterson, K. S. (2001, September 19). Do we seek vengeance or justice? *USA Today*. Retrieved February 26, 2004, from <http://www.usatoday.com/life/2001-09-19-vengeance-or-justice>
- Petty, R. E., & Cacioppo, J. T. (1986). The Elaboration Likelihood Model of persuasion. *Advances in Experimental Social Psychology, 19*, 123-195.

- Petty, R. E., Cacioppo, J. T., Strathman, A. J., & Priester, J. R. (1994). To think or not to think: Exploring two routes to persuasion. In S. Shavitt & T. C. Brock (Eds.), *Persuasion: Psychological insights and perspectives* (pp. 113-148). Needham Heights, MA: Allyn & Bacon.
- Petty, R. E., Gleicher, F., & Baker, S. M. (1991). Multiple roles for affect in persuasion. In J. P. Forgas (Ed.), *Emotion and social judgments* (pp. 181-200). Oxford: Pergamon Press.
- Petty, R. E., & Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology: Vol. 1.* (4th ed., pp. 323-390). New York: Oxford University Press.
- Posner, E. A. (2001). Law and the emotions. *Georgetown Law Journal*, 89, 2-28.
- Pratt, F. (2001). *The use of computer-generated exhibits in federal criminal cases*. Retrieved June 29, 2004, from <http://www.fd.org/Publications/SpecTop/CompGenExhibits.pdf>
- Preston, S. D., & de Waal, F. B. M. (2002). Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences*, 25, 1-72.
- Pritchard, M. E., & Keenan, J. M. (1999). Memory monitoring in mock jurors. *Journal of Experimental Psychology: Applied*, 5, 152-168.
- Queensland Courts. (2007). *Juror's handbook*. Retrieved July 13, 2008, from <http://www.courts.qld.gov.au>
- Queensland Government. (2003). *Crime and justice: The jury*. Retrieved December 18, 2003, from <http://www.justice.qld.gov.au/education/crime/jury.htm>

- Queensland Law Society. (n.d.). *SCES fact sheet 1 – Juries*. Retrieved July 31, 2008, from <http://www.qls.com.au/content/lwp/wcm/resources/file/eb721f41b459fbb/FSI%20-%20Juries.pdf>
- R v. Ames, N.S.W. Reports 1489, (New South Wales Ct. App. 1964-5).
- Read, M. (1986). Justice with juries. In D. Challinger (Ed.), *The jury: Proceedings of a seminar on the jury*. Canberra: Australian Institute of Criminology.
- Reber, A. S. (1995). *Dictionary of psychology* (2nd ed.). New York: Penguin Books.
- Robinson, M. G. (1979). Awareness program helps children understand special needs. *Education Unlimited*, 1, 25-27.
- Robinson, D., Smith-Lovin, L., & Tsoudis, O. (1994). Heinous crime or unfortunate accident? The effects of remorse on responses to mock criminal confessions. *Social Forces*, 73, 175-190.
- Rosselli, F., Skelly, J. J., & Mackie, D. M. (1995). Processing rational and emotional messages: The cognitive and affective mediation of persuasion. *Journal of Experimental Social Psychology*, 31, 163-190.
- Ruiz, S., & Sicilia, M. (2002). The impact of cognitive and/or affective processing styles on consumer response to advertising appeals. *Journal of Business Research*, 57(17), 1-8.
- Russell, D. W., Kahn, J. H., Spoth, R., & Altmaier, E. M. (1998). Analyzing data from experimental studies: A latent variable structural equation modelling approach. *Journal of Counseling Psychology*, 45(1), 18-29.
- Sallmann, P., & Willis, J. (1984). *Criminal justice in Australia*. Melbourne, Australia: Oxford University Press.

- Schwartz, N., & Clore, G. L. (1988). How do I feel about it? Informative functions of affective states. In K. Fiedler & J. P. Forgas (Eds.), *Affect, cognition, and social behavior* (pp. 44-62). Toronto: Hogrefe International.
- Singer, T., Seymour, B., O'Doherty, J., Kaube, H., Dolan, R. J., & Frith, C. D. (2004). Empathy for pain involves the affective but not sensory components of pain. *Science*, 303, 1157-1162.
- Smith, E. R., & Queller, S. (2004). Mental representations. In M. B. Brewer & M. Hewstone (Eds.), *Social cognition* (pp. 5-27). Retrieved May 17, 2004, from http://www.blackwellpublishing.com/content/BPL/Images/Content_store/Sample_chapter/1405110708/Brewer_001.pdf
- Sojka, J. Z., & Giese, J. L. (1997). Thinking and/or feeling: An examination of interaction between processing styles. *Advances in Consumer Research*, 24, 438-442.
- Stewart, T. J. (2002, January). Forensic science: From 1892 to forensic imaging technology. *Vedette*, 184, 18-19.
- Stingl, J. (1996, July 18). Juror faints during testimony about victim in homicide case. *Milwaukee Journal Sentinel*. Retrieved June 2, 2004, from LexisNexis Academic database.
- Stern, L. D., Marrs, S., Millar, M. G., & Cole, E. (1984). Processing time and the recall of inconsistent and consistent behaviours of individuals and groups. *Journal of Personality and Social Psychology*, 47, 253-262.
- Strayer, J. (1987). Affective and cognitive perspectives on empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 218-244). New York: Cambridge University Press.

- Stuckless, N., & Goranson, R. (1992). The vengeance scale: Development of attitudes toward revenge. *Journal of Social Behavior and Personality*, 7(1), 25-42.
- Sundby, S. E. (2003). The capital jury and empathy: The problem of worthy and unworthy victims. *Cornell Law Review*, 88, 343-381.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- The Guardian. (1986, October 31). Trial halted as juror faints. *Guardian Newspapers Limited*. Retrieved June 2, 2004, from LexisNexis Academic database.
- Thompson, R. A. (1987). Empathy and emotional understanding: The early development of empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 119-143). New York: Cambridge University Press.
- Tinsley, Y. (2000). Juror decision-making: A look inside the jury room. In R. Tarling (Ed.), *British Society of Criminology Conference: Vol. 4. Selected proceedings* (pp. 1-14). Leicester: British Society of Criminology.
- Titchener, E. (1909). *Elementary psychology of the thought processes*. New York: Macmillan.
- Titchener, E. (1924). *A textbook of psychology*. New York: Macmillan.
- Vaknin, S. (2004). *On empathy*. Retrieved October 18, 2004, from <http://samvak.tripod.com/empathy.html>

- Walker, J., Collins, M., & Wilson, P. (1987). *How the public sees sentencing: An Australian survey*. (Australian Institute of Criminology Trends and Issues in Crime and Criminal Justice Report No. 4). Retrieved February 26, 2004, from <http://www.aic.gov.au>
- Wasserstrom, R. (1978). Retribution and the theory of punishment. *The Journal of Philosophy*, 75, 601-622.
- Weidenhofer, M. (1995, December 9). Juror faints after hearing evidence of sword attack. *The Advertiser*. Retrieved June 2, 2004, from LexisNexis Academic database.
- Williams, L. J., & Holahan, P. J. (1994). Parsimony-based fit indices for multiple indicator models. *Structural Equation Modeling*, 1(2), 161-189.
- Wispé, L. (1986). The distinction between sympathy and empathy: To call forth a concept, a word is needed. *Journal of Personality and Social Psychology*, 50, 314-321.
- Wispé, L. (1987). History of the concept of empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 17-37). New York: Cambridge University Press.
- Wispé, L. (1991). *The psychology of sympathy*. New York: Plenum Press.
- Wrightsman, L. S., Greene, E., Nietzel, M. T., & Fortune, W. H. (2002). *Psychology and the legal system* (5th ed.). Belmont, CA: Wadsworth Thomson Learning.