An Investigation of Biased Depictions of Normality in Counterfactual Scenario Studies

by

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Abstract

Counterfactual research and Norm Theory (Kahneman & Miller, 1986) predict that abnormal antecedents will be more mutable than normal antecedents. Individuals who behaved abnormally prior to accidental or criminal victimization (e.g., choosing a different route home) are usually awarded higher compensation than those victimized in more routine circumstances. Abnormality is said to provoke more available alternatives, and is cited as a positive correlate of affect (the emotional amplification hypothesis). Enhanced affective response is said to be responsible for greater compensation to victims and more severe punishment of offenders. This thesis challenged the notion that exceptional circumstances always have more available alternatives than do routine circumstances, incorporating higher methodological rigor and a more realistic legal context than previous studies. Results indicated that the degree of alternative availability is not so much a function of normality itself but of how normality is conveyed in scenarios. Routine circumstances can be just as mutable as exceptional circumstances. Scenario studies investigating criminal punishment which separated alternative availability and normality provided evidence of a moderating effect of availability, as well as an interaction between victim and offender availability. The findings help to revise assertions made by psychological and legal scholars concerning mutability.

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CHAPTER 1

Introduction

A multitude of research in social psychology using questionnaire studies has focused on participants' judgments and affective responses to fictitious scenarios, or recall from the lives of themselves or others. In particular, victimization scenarios used by many researchers have attempted to illustrate the differences in readers' reactions as a function of some aspect of the story. Ultimately, it befalls the researcher to ensure that his or her scenarios are free of confounds, and open to interpretation based on manipulated independent variables. In some cases this can be hard to do; in particular, when manipulating one variable concurrently manipulates another confounded with the first, when communicating the status of one variable unknowingly primes a particular level of another confounding variable. One such body of research that relies heavily upon victimization scenario studies involves counterfactual thinking, and how participants react to events that are more or less reversible than others. Communicating the degree to which an event can be mentally undone whilst measuring participants' reactions is fraught with peril, however, as hidden confounds require a rare degree of control. The current investigation looks at the relationship between counterfactual research streams involving victimization scenarios and a newly hypothesized potential confound, as well as attempts to reduce the influence of such unexpected variables.

What are Counterfactuals?

While many people may not be immediately aware of what the term "counterfactual" refers to when first hearing the word, nearly everyone is familiar with the terms "almost..." or "if only…" A counterfactual is precisely this type of statement:

one that runs counter to the facts, and describes an alternative version of a particular outcome. In addition, counterfactuals may include conditional statements concerning some precursor that could have been different (and thus have brought about the alternative outcome). With the number of shocking tragedies garnering international media attention of late (for example, the World Trade Center attacks, and the space shuttle Columbia crash), counterfactual thinking is undoubtedly quite prevalent among international policy-makers and media outlets. Witness the political mud-slinging and accusations in the United States following the September 11, 2001, terrorist attacks, focused on the minute, yet compounded, failures that, if reversed, could have prevented the entire tragic day (e.g., Savol, 2003).

To generate a counterfactual entails selecting some focal outcome and suggesting a revised version of events (e.g., "I almost caught the flight..."). This can even involve hypothetically altering a particular factual antecedent in order to imagine and assess a revised, or even entirely different outcome provoked by the altered antecedent (e.g., "I would have caught the flight if..."). In a sense, one can perform a conditional mental simulation involving the antecedent and consequent, an idea suggested by Kahneman and Tversky in a 1982 chapter entitled "The Simulation Heuristic." Kahneman and Tversky's early empirical assessment of mental "undoing" was devised to illustrate how the construction of hypothetical scenarios involving counterfactuals could influence judgment and affect. The authors' intent was to show how the ease with which one could mentally simulate an outcome was predictive of various judgments and attributions of emotion. For instance, in the case of two unfortunate travelers who missed their flights, readers nearly unanimously agreed that the traveler who missed his flight by only 5

minutes would be much more upset than he who was 30 minutes overdue. Of course, as Kahneman and Tversky pointed out, there was no difference between each victim's end state, it was simply that imagining how 5 minutes could have been gained (e.g., passing a slow truck, an average speed of 1 km/h faster, etc.) was much easier than imagining a gain of 30 minutes.

Roese and Olson (1995, 1997) suggested a two-stage model of counterfactual activation and construction, which distinguished between activation (called availability in earlier work) and content. Roese and Olson were quite clear in conceptually separating these two related aspects of counterfactual thinking. The authors delineated a process by which affect and motivation prompt and determine the degree of counterfactual activation, whilst the characteristics of the outcome antecedent determine the content of the counterfactual thought(s) once initiated. The antecedent is typically seen in contrast to the norms of the situation, and content is typically based upon deviations from those norms.

Support for the activation of counterfactuals due primarily to affect comes from a series of studies by Roese and colleagues (Roese & Hur, 1997; Roese & Olson, 1997), in which affect consistently mediated the relationship between outcome valence and counterfactual activation. Using open-ended, free-response, thought-listing questions following the provision of written scenarios, the authors demonstrated that negative outcomes, and the accompanying negative affect, produced the greatest number of counterfactual thoughts. Examples included scenarios describing test failure (pertinent to the student participants), as well as completion of difficult anagram tasks by participants. Participants who were led to believe their failure was abnormal (a negative outcome)

were quicker to generate counterfactuals, an effect fully mediated by affect: negative emotions prompted counterfactual thinking. This one-factor theory of activation has not gone unchallenged, however, as evidence exists showing a strong influence of context in addition to that of affect in at least one study of negative outcome recall (Mandel, 2003). By revealing dissimilar degrees of counterfactual thought generation across academic and interpersonal contexts, Mandel demonstrated the necessity for researchers to pay closer attention to the realm of thought under study, particularly in studies of self-focused counterfactuals.

Supposition regarding the content of counterfactual thoughts stems primarily from the work of Kahneman and Miller (1986), who devised Norm Theory, concerning categorization and the evaluation of surprising stimuli. According to Kahneman and Miller, judgments of the normality of some object or event stimulus are performed based on norms constructed after the fact, using a form of backward construction guided by the stimulus itself, as well as the current context. In a post-hoc fashion, "each stimulus selectively recruits its own alternatives," (Kahneman & Miller, p. 136). It follows that for an event to be judged as abnormal it must elicit highly available alternatives. For example, Kahneman and Miller described a 26-year-old geographer with an MSc, who has a $33,000 annual salary, and concluded that judgments of the normality of such a person's salary are based on the availability of exemplars: perhaps people with Master's degrees, geographers, 26-year-olds, and/or those earning $33,000. If a number of comparative examples exist that run counter to the facts, one should be safe to conclude that $33,000 is an abnormal salary under the conditions. The authors' key point was that the norm for such a judgment does not exist a-priori; it is devised after the stimulus is

encountered in a form of counterfactual construction that depends on the degree of mutability existing in the established facts. Attributes that could be easily mutated were described as those most likely to evoke norms dissimilar to the outcome, thus bringing about particular counterfactual thoughts.

One major determining factor of mutability that Kahneman and Miller (1986) described was that of *exception and routine*. The authors proposed, based on results from Kahneman and Tversky (1982), that "exceptions tend to evoke contrasting normal alternatives, but not vice versa, and an event is more likely to be undone by altering exceptional than routine aspects of the causal chain that led to it," (p. 143). Their proposition stemmed from Kahneman and Tversky's findings concerning counterfactuals generated from a scenario involving an auto accident victim, Mr. Jones. Participants who read about Mr. Jones traveling home from work via his normal route, but after having left early, generated counterfactuals focused on the time of departure. The opposite was true for scenarios describing a regular departure time but an abnormal route – counterfactuals focused on the route. What Kahneman and Miller suggested follows from the generation of counterfactuals mutating abnormal events is a stronger affective reaction, a phenomenon dubbed *emotional amplification*: "outcomes that follow exceptional actions – and therefore seem abnormal – will elicit stronger affective reactions than outcomes of routine actions," (p. 145). The notion of emotional amplification, as well as that of counterfactual content based upon the normality and mutability of antecedents, has formed the basis for much of the counterfactual research over the past two decades, as well as prompting my own investigation into the matter.

Types of Counterfactuals

Research in counterfactual thinking has touched on several particular types of counterfactuals. Perhaps the most prevalent in terms of empirical studies are counterfactuals that ponder alternative version of past events, as do victimization scenarios, such as those used by Kahneman and Tversky (1982). It is certainly possible for a counterfactual to be concerned with future events as well, as Roese (1997) pointed out in his review. A future counterfactual might take the form of a statement such as "If only I *could*..." versus "If only I *did*..." These types of statements have been labeled *pre-factuals* by McConnell et al. (2000). One can also consider the existence of the term *semifactual*, (e.g., McCloy & Byrne, 2002) which is a conditional statement in regards to the means by which an outcome would remain unchanged despite an altered antecedent, a so-called "Even if..." statement.

In terms of the content of counterfactuals, Roese and Olson (1993, 1995a) used the terms *additive* and *subtractive* to differentiate counterfactuals that add a new antecedent from those that simply remove one. Further content-relevant terms were introduced by Kahneman and Tversky (1982), using the labels *uphill* and *downhill*. An uphill change introduces an unlikely antecedent, and a downhill change removes the unexpected aspect of the story ("...increases its internal coherence," p. 205).

Counterfactuals are most easily divided based on their direction – *upward* or *downward* (Markman, Gavanski, Sherman, & McMullen, 1993; McMullen, Markman, & Gavanski, 1995). Markman et al. used the term upward to describe a counterfactual concerned with how the outcome could have been better, and downward to refer to a worse outcome. Using a framing manipulation in a gambling (blackjack) task, the authors

were able to generate both types of counterfactuals depending on how the outcome was described, as either a win or a loss. Participants who "won" $5 from a neutral base state were much less likely to generate upward counterfactuals (concerning how they could have won more) than those who "lost" $15 when initially given $20. As Markman et al. pointed out, the terminology is borrowed from the social comparison literature, in which one can be said to make upward or downward comparisons to others.

This review and the subsequent research are concerned primarily with upward counterfactuals, as are a good deal of the past and present research investigations. Upward (typically additive) counterfactuals that ponder how events could have turned out for the better (by adding a new antecedent) are the most common types of counterfactual thoughts, given the spontaneous generation of counterfactuals as a result of negative affect (e.g., Markman et al., 1993; Roese & Olson, 1995a; 1997). These findings coincide with Kahneman and Miller's (1986) Norm Theory, in which deviations from the norm inevitably result in some measure of counterfactual thinking. Considering that many people's norms are in the positive direction, misfortune and the accompanying negative affective response is likely to lead to upward counterfactual considerations.

Terminology

Before proceeding any further it is necessary to clarify some of the terminology involved in counterfactual research, to avoid confusion, and to clearly state how I intend to label my own research findings. In describing aspects of Norm Theory, Kahneman and Miller (1986) frequently used the term "mutability" to refer to the ease and naturalness with which the attributes of a scenario could be mentally altered. In the case of Kahneman and Tversky's (1982) travelers, the man who was 5 minutes late had a past

that was much more mutable than that of his companion. Kahneman and Miller made reference to other scenarios used by Kahneman and Tversky in terms of the mutability of victim antecedents. The features of a victim who proceeded normally (driving home via his usual route) were described as less mutable than those of one in *exceptional* circumstances (driving by a route less traveled). Although these labels have been used by other researchers, a number of further modifications to the terminology have arisen throughout the years in reference to the circumstances involved in scenarios. Researchers in the field can, and have, used any number of terms when describing antecedents and circumstances that elicit counterfactual thinking, including, but not limited to *normal, familiar, routine,* or *usual* and *exceptional, abnormal, unfamiliar,* or *unusual.* I will endeavour to use the simplest terms possible when describing the scenarios in my own research, using *normal* and *abnormal* to differentiate antecedent circumstances based on a manipulation of *normality.*

Consequences and Functions of Counterfactual Thoughts

A good deal of research has focused on the consequences of counterfactual thoughts, typically emphasizing the (emotional) effects of counterfactuals (Davis, Lehman, Wortman, Silver, & Thompson, 1995; Gleicher et al., 1990; Mandel, 2003; McMullen et al., 1995; McMullen & Markman, 2002; Medvec, Madley, & Gilovich, 1995; Roese & Hur, 1997; Roese & Olson, 1995b; Sanna & Turley-Ames, 2000; Sherman & McConnell, 1993). The research has been guided by Kahneman and Miller's (1986) hypothesis of emotional amplification. A variety of results have shown that upward, self-focused, counterfactual thinking can have a negative effect on mood and emotion (Roese, 1994; Roese & Olson, 1995a; 1995b; Roese & Olson, 1997). On the

other hand, upward counterfactuals can have beneficial effects by serving a preparatory function and provoking hope for the future and intentions for positive change, ironically sometimes concurrently with negative affect (Landman, 1995; McMullen et al. 1995; Nasco & Marsh, 1999; Roese, 1994, Sherman & McConnell, 1993). The irony of such a tradeoff situation has not been lost on researchers: "Upward counterfactuals prepare one for the future, at the expense of feeling worse, whereas downward counterfactuals help one feel better, at the expense of being ill prepared for the future," (McMullen et al., p. 142).

The two primary reasons for the multitude of counterfactual consequences are summarized using a functional account by Roese (1997), who reports that two particular cognitive mechanisms are responsible: contrast effects, and causal inferences. Contrast effects take place when some judgment is psychologically intensified through comparison with a standard or other anchor. Roese uses the simple, but easily understood, example of a swimming pool feeling colder after spending time in a hot tub. Similarly, for counterfactual thinking, an outcome (even a relatively positive one) may seem worse after comparison with an upward counterfactual that reveals how things could have turned out for the better. For example, Medvec et al. (1995) found a high degree of negative emotions in Olympic silver-medalists, for whom an upward counterfactual of a gold medal is strongly activated (more so than a downward counterfactual of bronze). Causal inferences, on the other hand, can be responsible for more beneficial effects of counterfactual thinking by educating the thinker about the connection between some antecedent and unfortunate consequent, and how to avoid similar perils in the future. For instance, upward counterfactuals following a car accident may provide for a very salient

reminder of the proper driving technique in the future should a similar situation arise, one that can hopefully be avoided the second time around.

Although accounting for a multitude of findings over time, the functionalist account of counterfactual comparisons has been superseded by a more comprehensive model from Markman and McMullen (2003): the Reflection and Evaluation Model (REM) of comparative thinking. While previous accounts assumed contrast effects engendered negative affect in response to upward counterfactuals, and positive affect in response to downward counterfactuals, the REM introduced a moderator for further precision. Markman and McMullen suggested that tendencies to engage in *reflection* or *evaluation* interact with upward and downward comparisons to determine affect. The authors described reflection as the vivid simulation of the comparison standard in regards to oneself, thus assimilating the standard, which is said to produce positive affect during upward comparisons, but negative affect during downward comparisons. Alternatively, evaluation of a comparison standard is what produces affective contrast and the resulting negative affect during upward comparisons, in addition to positive affect during downward comparisons. Aspects of the environment determine whether one engages in reflection or evaluation (e.g., attentional focus, accountability, temporal perspective). The end result is four modes of comparison, versus the two modes (upward and downward) in previous functionalist accounts: upward and downward reflection, as well as upward and downward evaluation. Markman and McMullen have touted the increased degree of specificity provided for by the REM over previous accounts, and have shed new light on the underlying processes involved in counterfactual and other forms of comparative

thinking. As it stands, the REM appears to be the most comprehensive model of how counterfactual thinking leads to particular emotional responses.

Affective Consequences

A number of studies have used both fictional scenarios and real-life recall to determine how counterfactual thinking influences affect. It would appear that upward counterfactual thinking in response to negative events has unfortunate consequences for affect. For example, Roese (1994) asked participants to recall a significant negative event from recent memory (e.g., peer conflict, relationship breakup, family death) and to generate counterfactuals for the event. Roese manipulated the counterfactual direction in which participants were asked to think: upward or downward. Afterwards, it was revealed that participants who generated upward counterfactuals were much less relieved and were more disappointed than those who generated downward counterfactuals. A second, more specific study in which participants recorded details concerning a recent exam failure showed even stronger findings; with upward counterfactuals resulting in less positive affect overall, including the disappointed-relieved dimension.

Roese's (1994) findings were built upon the results of Markman et al. (1993), whose blackjack experiment was detailed earlier. Not only did Markman et al. find a greater propensity for participants to generate upward counterfactuals following loss, but the upward counterfactuals corresponded with a decrease in satisfaction among players. Participants who expected to play the game again generated more upward counterfactuals and were less satisfied. Even those not expecting to play again became less satisfied (accompanying upward counterfactuals) once shown the cards they could have received had they continued (of which two out of four would have resulted in a sure win).

More evidence of the distressing nature of certain upward counterfactuals comes from Davis et al. (1995), who interviewed bereaved spouses and parents following the death of a loved one. Counterfactual "undoing" thoughts were prevalent even years after the loss, and those thoughts were directly tied to continued distress (after having controlled for general rumination). A composite measure of distress comprising affect, depression, and suicidal ideation revealed that frequency of undoing was correlated with distress, and those who reported continued mental undoing were more distressed than those who did so only in the past. In fact, the results held even among bereaved parents who reported no unusual antecedent circumstances prior to the death of an infant from Sudden Infant Death Syndrome, an unpredictable and unexplained cause of infant death. Despite the lack of easily mutable circumstances, parents continued to mentally undo the deaths, and frequency of undoing was again correlated with negative affective reactions such as depression, anger, and anxiety. Davis et al. noted that their findings were independent of the frequency of rumination, illustrating a more direct connection between upward counterfactuals and negative affect.

Finally, support for the upward-downward differentiation among affective response was provided by Sanna and Turley-Ames (2000), who asked participants to generate counterfactuals in response to events that happened to them in the past week. The authors utilized a 2 x 2 between-subjects design incorporating instructions to respond to positive versus negative events, and to generate upward versus downward counterfactuals. As predicted, a strong main effect of counterfactual direction emerged when the authors analyzed their global measure of affect. On the other hand, the valence of the event itself did not significantly influence affect. Upward counterfactuals were

associated with greater negative affect, and downward counterfactuals were associated with greater positive affect. The results carried over on to a laboratory word-association task in which the authors manipulated success and failure. In the laboratory task, the degree of observed upward counterfactual generation was strongly associated with greater negative affect.

The relationship between the two directions of counterfactual thinking and affect, and the accompanying contrast effect surmised by Roese (1994) was challenged recently by Mandel (2003), who found no significant emotional effects of downward counterfactuals. Although Mandel's findings corroborated the multitude of evidence showing the affective consequences of upward counterfactuals (e.g., increased negative emotions such as disappointment), he found no link between downward counterfactual thinking and improved positive affect. Among participants who recalled a negative interpersonal or academic experience, downward counterfactual availability did not (inversely) correlate with any negative emotions, in contrast to the functional account put forth by Roese and others (e.g., McMullen & Markman, 2000).

Judgment: Blame and Punishment

Kahneman and Tversky (1982) were among the first to demonstrate that the affective response to counterfactual thinking can carry over on to judgments of others' emotions. As previously mentioned, participants who read about a traveler who missed a flight by only 5 minutes judged him to be more upset than another who was nearly 30 minutes late. Using various other hypothetical victimization scenarios many researchers have contributed further evidence illustrating not only similar findings, but how such emotional carryover transfers into blame, and even punishment in some cases (Bothwell

& Duhon, 1994; Goldinger, Kleider, Azuma, & Beike, 2003; Macrae, 1992; Macrae, Milne & Griffiths, 1993; Miller & McFarland, 1986; Nario-Redmond & Branscombe, 1996; Prentice & Koehler, 2003; Turley, Sanna, & Reiter, 1995; Wiener et al., 1994; Williams, Lees-Haley, & Price, 1996).

Miller and McFarland (1986) produced evidence that the predictions of Norm Theory could be tested using victimization scenarios. In brief, the emotional reaction elicited by an event was predicted to increase as a function of the abnormality of the event, which, in turn, was proposed to be a function of the degree the event elicited alternatives. As a result, the authors expected greater sympathy for victims suffering an unusual fate, which would correspond to greater compensation for their injuries. In an initial experiment, Miller and McFarland presented a simple scenario involving a man who lost the use of his arm following a shooting in a convenience store. The authors manipulated between-subjects whether or not the store he visited was his "usual" store or not. As predicted, the victim who visited an unfamiliar store for a "change of pace" was awarded approximately $85,000 more in monetary compensation than an individual similarly injured in more familiar surroundings.

Miller and McFarland (1986) conducted a second study regarding what the authors viewed as counterfactual distance – the degree of mental "closeness" of a positive alternative to a negative outcome. Outcomes that were nearly positive were said to be more mutable, and hence were expected to generate greater affect. Using a between-subjects manipulation, the authors provided participants with scenarios describing an airline crash survivor who nearly reached safety before succumbing to exposure, and requested compensation judgments for his family. The survivor who died only ¼ mile

outside the nearest town – for whom the positive outcome was mentally very close – provoked much greater compensation than he who succumbed over 75 miles away.

Building upon the findings of compensation recorded by Miller and McFarland (1986), Macrae and his colleagues (Macrae, 1992; Macrae & Milne, 1992; Macrae et al., 1993) performed several studies in which measurements of blame were also recorded. In one case, using two different victimization scenarios, Macrae replicated the compensation effects witnessed by Miller and McFarland, and, in addition, revealed how participants judged and punished an offending entity. In a scenario describing a woman's illness due to food poisoning, participants not only awarded more financial compensation when she visited a new restaurant (versus her more regular eatery), but, in an unusual twist, they even judged the restaurant as more negligent and levied a harsher fine. This finding was surprising given that the restaurant had no bearing upon the victim's food choices – she was the one who decided upon a new locale after all. Similarly, a woman injured by falling equipment received greater monetary compensation when she was described as walking a new route to work versus her usual routing. The scaffolding company responsible for the equipment was also judged more negligent and fined more harshly in the abnormal circumstances. Macrae viewed his results as indicative of greater victim sympathy and perpetrator antipathy due to the normality manipulation, in line with the predictions of Norm Theory.

To more readily capture a distinct measure of affective reaction to counterfactual thoughts, Macrae and Milne (1993) utilized victimization scenarios that allowed participants to explicitly indicate their sympathy for the victim, in addition to assigning punishment for a criminal offender. Their predictions were confirmed when readers not

only viewed an incident in abnormal circumstances as more serious, but levied a harsher punishment, and felt greater sympathy towards the victims. For example, a youth who was robbed while walking home via an unfamiliar route elicited over 30% more sympathy than one robbed in his regular haunts. Not surprisingly, the mugger himself was assigned much more severe punishment in correspondence with the increased sympathy readers felt for the victim.

The findings involving direct measurements of punishment were extended to much more serious criminal matters by Turley et al. (1995), who investigated hypothetical incidents of rape, and subsequent reported affect and judgments of punishment by readers of the victimization scenarios. In a series of experiments covering manipulations of both victim *and* offender circumstances, including interactions between the two targets, the authors measured numerous variables including avoidability, sympathy, and positivity, in addition to judgments of responsibility, fault, regret, and offender punishment. In the authors' first study, a rape victim was described as walking home via her usual route or an unfamiliar new route. Evidence of counterfactual activation was evident by participants' judgments that the rape itself was more avoidable in the abnormal condition, consistent with the notions of undoing put forth in Norm Theory. Although not all of the dependent measures used by the researchers showed significant differences between conditions, the degree of punishment was one of the most successful results obtained. Turley et al. used a more direct measure of punishment lacking in earlier studies of criminal events which assessed a subjective measure of "severity" (e.g., Macrae & Milne, 1993), for they elicited direct sentences in terms of years of imprisonment. As the authors predicted, victims who were raped in unusual

circumstances provoked sentences for the offender that were nearly three years longer than those given to offenders in the normal condition.

The scenarios provided by Turley et al. (1995) included more comprehensive manipulations of normality through the addition of offender behavior as well as that of the victim. The researchers conducted a second experiment in which only the offender's circumstances were manipulated (in terms of his choice of bars – new, or old and familiar – prior to the rape). Similar to the initial results, normality again influenced certain dependent measures, including prison sentence. In this case, however, an offender who behaved more normally prior to the rape (i.e., attended a familiar bar) was sentenced more harshly than one in unfamiliar circumstances: a prison sentence nearly four years longer. Turley et al. surmised that normal behavior by the rapist prior to the assault was interpreted as indicative of greater intent, resulting in the more severe punishment. Most importantly, their results indicated that a blanket concept of normality could not always be assumed to result in similar findings, but that the direction of results depends on the target of the counterfactual thoughts elicited.

Counterfactual Thought Focus

A handful of studies in the counterfactual literature have specifically examined target focus, in which participants were asked to take the perspective of one of two parties in a legal dispute (Bothwell & Duhon, 1995; Branscombe et al., 1996; Catellani & Milesi, 2001; Macrae & Milne, 1992). Many researchers and legal scholars have noted that counterfactuals can be elicited in order to nefariously manipulate affect and judgment towards the individuals involved in the circumstances and outcomes (e.g., Kassin, Williams, & Saunders, 1990). By focusing on the actions and counterfactuals possible for

one individual in a legal case (whether it be the victim or the offender), it could be possible to increase or reduce assessments of blame, and more importantly, punishment. To illustrate this process, researchers have utilized methodologies in which readers and mock jurors have been asked to undo a particular party's actions, or simply to take one of two perspectives. For example, Macrae and Milne (1992) asked participants to take the perspective of either the victim or the restaurant prior to reading a food poisoning scenario. The empathetic manipulation moderated the effects of counterfactual thinking such that a victim-set amplified the normality manipulation (whether or not the victim attended a familiar restaurant), and the offender-set attenuated the effect.

Branscombe et al. (1996) showed that target focus (the party for whom participants were asked to undo their actions) strongly influenced blame, using a methodology in which participants, after reading a legal case, viewed a video of an "attorney" who presented particular counterfactuals during his closing arguments. When a rape victim's actions were undone (e.g., "If only she had driven her own car to the restaurant") victim blame was higher and assailant blame lower than when the assailant's actions were instead undone. Similarly, in an auto accident scenario, participants assigned greater blame to the driver whose actions were mentally undone. Branscombe et al. noted that the results of the auto accident scenario were particularly interesting given that neither party had any particular intentions, or was likely to elicit pre-conceived degrees of blame. The authors pointed out the great value (and danger) that counterfactuals hold for attorneys and those wishing to influence judgments.

Results concerning counterfactual thought focus are not completely unanimous however. Most recently, hypotheses concerning focal effects in counterfactual thinking

were put to the test by Mandel and Dhami (2004), in part to determine if counterfactual thinking or actor focus plays a stronger role in blame assignment. Using a sample of prison inmates directed to think either counterfactually or factually about the events leading up to their imprisonment, the authors showed that counterfactual thinking influences blame assignment more so than factual thinking concerning the same events. Seeing as actor focus was constant throughout the process, only thought focus (counterfactually versus factually) differed. Despite consistently focusing on themselves, inmates who considered counterfactuals in their past blamed themselves more than those who considered the factual events leading to their convictions. The discrepancy in results across thought focus was not supportive of a robust effect of actor focus, which would predict similarly high blame across conditions.

Branscombe et al. (1996) did not manipulate normality; the authors only asked participants to imagine how the situation could have been undone. Mandel and Dhami (2004) did not utilize scenarios and thus could not manipulate normality (nor was it their intention). Macrae and Milne (1992) did manipulate normality, but only that of the victim's behavior. While many counterfactual studies have examined the normality of a victim's circumstances in a legal scenario, only Turley et al. (1995) have manipulated the circumstances of the other party. In fact, Turley et al. performed further experiments following their first two manipulations of victim and offender normality, in which the combined victim *and* offender circumstances were presented to readers. Although not including particular empathy-set instructions, the researchers demonstrated a previously unknown influence of combined target counterfactuals. A rape scenario in which both the victim and offender were in unusual circumstances resulted in significantly longer

recommended prison sentences than any of the other three combinations of circumstance (in a 2 x 2 design). As a caveat, sexual assault is a very particular crime, and in Turley et al.'s methodology, an apparently spontaneous offence for which participants may theorize about and pay close attention to intentions. It remains to be seen how assailant behavior in other categories of criminal offences will be interpreted by participants.

Scenario Studies and Story Design

As can be seen, a large proportion of counterfactual studies have been based on hypothetical scenarios. While a small number have included real-life accounts from persons involved (e.g., Branscombe et al., 2003; Davis et al., 1995, Davis, Lehman, Silver, Wortman, & Ellard, 1996), explanations based on Norm Theory have utilized scenarios in which the a priori norms of the circumstances and outcome can be manipulated in a controlled fashion. In essence, the method pioneered by Kahneman and Tversky (1982) involving negative outcomes that follow from so-called normal or abnormal antecedents is still heavily in use today. Goldinger et al. (2003), for example, while also investigating a new factor – cognitive load – based their scenarios on near duplicates of Kahneman and Tversky's original work: a victim was injured in either normal circumstances or in abnormal circumstances he/she selected for some reason, such as a change in pace. Few challenges have been made to this type of methodology, in particular given the multitude of highly significant results it consistently produces.

Recently, a challenge to the typical normal versus abnormal scenarios emerged in the work of Trabasso and Bartolone (2003). The authors reexamined Kahneman and Tversky's (1982) original simulation heuristic scenario designs involving the accident victim "Mr. Jones." Jones traveled home either by his normal route, after leaving work

early, or via a scenic sea-side route, following his regular departure time. Kahneman and Tversky found that participants who generated counterfactual sentence completions ("if only...") following reading the Jones scenario typically mutated the abnormal antecedent, be it route or time, respectively. As I have noted, many findings since that time have focused on the concept that abnormal events are more easily mutable, provoke a stronger affective reaction, and lead to various judgment biases. However, Trabasso and Bartolone made the proposition that mutability based on normality did not drive the original findings, but instead depth of explanation was the responsible cause.

In the original simulation heuristic scenarios, Mr. Jones explained his motivations for taking the scenic route to his co-workers as he left (in the route version), and similarly, the reader was provided with an explanation of why he needed to leave early (to attend to some chores at his wife's request). Trabasso and Bartolone (2003) argued that the normal versions of each scenario did not possess the same depth of explanation as the paired abnormal versions, merely referencing or not even mentioning the normal alternatives. Controlling for the degree of explanation, the researchers constructed new scenarios based closely upon the Mr. Jones stories, and attempted to replicate Kahneman and Tversky's (1982) original findings. Degree of explanation primarily referred to the provision of motivating reasons for Mr. Jones' choice of route or departure time (e.g., he wanted to relax and think about pleasant things while driving along the shore, a longer trip that was not his regular route). Participants read stories in which both versions of the route and time variables were explained in similar detail, and then rank-ordered several potential causes of the accident (e.g., route taken, time of departure). Results clearly indicated that normality had no influence upon participants' degree of counterfactual

thinking or upon participants' ranking of causal factors. The type of route was not ranked as more causal in the abnormal condition versus the normal route, nor was the abnormal time of departure in comparison to the respective normal time version of the story.

In discussing their findings, Trabasso and Bartolone (2003) pondered the possibilities of further confounds existing in the counterfactual research. In particular, they questioned how readers of normal conditions have devised abnormal alternatives, and suggested that there is more uncertainty on the part of readers as to precisely what is the abnormal alternative to a normal antecedent. The authors referred to a study by Wells, Taylor, and Turtle (1987) in which participants were asked to undo scenarios, in which the abnormal conditions always made reference to their normal alternative, but normal descriptions of normal conditions failed to do the same: "For example, if the protagonist decided to go swimming on a day that was unusual for him, the story also mentioned the day that he normally went swimming. When the day condition was normal, however, no alternative unusual day condition was mentioned," (p. 921). The suggestion being that the scenarios used in many counterfactual studies could benefit from a great deal of tweaking to more precisely equate the normal and abnormal conditions in terms of the explicitness of the alternative actions, which is a likely contributor to the content of counterfactual thoughts.

Rationale for the Present Studies

Quite frequently, descriptions of normal behavior and circumstances have made no reference to an abnormal alternative, while abnormal situations can only be easily conveyed using a normal reference: it is difficult to convey exceptionality without a comparison standard. As a result, researchers using scenario studies to make conclusions

about counterfactual thinking have relied on a very similar and common methodology. The vast majority of scenarios are simply modifications of the same general template pioneered by Kahneman and Tversky (1982), and Miller and McFarland (1986), in which an individual is victimized following normal or abnormal antecedent actions (e.g., a decision to leave work "earlier than usual," Kahneman and Tversky, p. 204). It is possible, however, that the language used to convey normality/abnormality in scenario studies has done as much to guide counterfactual content, and subsequent affect and judgments, as the normality manipulation itself. Thus, a researcher comparing normal and abnormal scenarios may in fact be simultaneously, and unknowingly, comparing scenarios differing in the degree of explicitness of alternatives, leaving the question open as to which factor is most responsible for the outcome of the comparison, let alone how they may build upon each other and/or interact.

Kahneman and Miller (1986) asserted that exceptions evoke normal alternatives, but not vice versa, causing outcomes that take place in exceptional circumstances to be seen as abnormal. However, if the degree of availability of alternatives is what determines normality, then it would seem that an outcome in routine circumstances could be judged "abnormal" to the extent that counterfactual alternatives are highly available. Moreover, given the emotional amplification hypothesis, such an event could be expected to result in a similar degree of enhanced affect as a corresponding abnormal outcome in exceptional circumstances. In fact, the assumption that *only* exceptional (abnormal) events can have highly available alternatives was never adequately tested, simply accepted as fact. An illustration of so-called "routine" circumstances provoking counterfactuals to the same extent and with similar content as "exceptional"

circumstances would have important theoretical and methodological implications for Norm Theory and research on which it is based. More precisely, such evidence would indicate that exceptions do not tend to evoke contrasting normal alternatives more so than routine evokes abnormal alternatives. Nor would it stand that exceptional elements are more like to be undone that routine aspects. It is possible that an abnormal event is not "one that has highly available alternatives," (Kahneman & Miller, p. 137) nor that highly available alternatives necessarily follow only from abnormal events. If counterfactual alternatives are not necessarily elicited solely by the degree of exceptionality in a scenario then the scenario studies illustrating various effects of *normality* may not be applicable in the sense that their authors intended. Although the emotional amplification hypothesis would stand (that available alternatives enhance affect), the link between exception and mutability, and availability, would be in jeopardy. The separate influence of availability of antecedent alternatives could be interacting or supplanting normality in ways originally unknown and unsuspected.

Many of the studies of counterfactual thinking utilize scenarios that are applicable to the legal system, with measures including judgments of blame, compensation, and punishment. As I have illustrated, the consensus seems to be that abnormality provokes greater victim compensation and offender punishment. However, if those findings have been influenced by a confound of alternative availability, many of the conclusions could be in jeopardy, and the stated practical significance of the findings could be misguided. It should be possible to devise a methodology, and construct scenarios, to equate normal and abnormal circumstances in terms of the explicitness of counterfactual alternatives, what I will label *alternative availability* for ease of use. Doing so will enable a test of the

notion that exceptionality influences counterfactual content and subsequent affect and judgment, while controlling for the confound of alternative availability – manipulated through the explicitness of alternatives. The present research was designed to put the predictions of Norm Theory to a more rigorous test by re-examining the effect of normality on affective and attributional judgments while controlling for (or independently manipulating) the explicit reference to counterfactual alternatives.

CHAPTER 2

Study 1

In Study 1, I attempted to replicate a number of similar findings in the counterfactual literature, concerning affective and judgmental reactions to scenarios for which counterfactuals were easily generated. Six scenarios involving victimization, either accidental or criminal, were borrowed from previous studies: food poisoning, injury from falling equipment (Macrae, 1992); mugging (Macrae, Milne, & Griffiths, 1993); convenience store shooting (Miller & McFarland, 1986); rape (Turley, Sanna, & Reiter), and vehicular accident (Kahneman & Tversky, 1982). My intent was to determine if the previous findings (all supporting differing reactions based on normality, yet confounded with alternative availability) could be replicated, and whether controlling and manipulating alternative availability would regulate the results.

Unlike previous scenario studies, I provided for the inclusion of a third group of scenarios, in which the circumstances described were still normal, but for which counterfactual alternatives were expected to be generated more readily – similar to the way abnormal scenarios are described, with reference to the normal alternative (increased alternative availability). In this case, normal scenarios made reference to the abnormal alternative, allowing for a more equal comparison between normal and abnormal scenarios. As a result, I expected to reduce the disparity in participants' responses based on the normality manipulation. Combined with the expected differences between normal unavailable and abnormal available conditions (the typical comparison), the findings were expected to support my claim that alternative availability was significantly contributing to the previous results.

Method

Participants

The participants were 67 undergraduate students at the University of Victoria who participated for partial course credit. Participants were recruited through instructions provided in introductory and second-year psychology courses, and signed up for experiments through an online internet scheduling system. Participants ranged in age from 18 to 47 years ($M = 21.86$, $SD = 4.31$). There were 19 males and 44 females.

Materials and Procedure

Participants were met in a lab or small classroom by a research assistant who explained the study and provided the materials. Most participation took place in small groups of several participants, each working independently. The research assistant seated the participants and provided a consent form (Appendix A) that briefly outlined the purposes and procedures of the study, and emphasized that participants were free to withdraw from participation at any time should they desire. Upon receiving informed consent, the research assistant provided participants with a short questionnaire they were asked to complete, containing specific instructions as to the manner of completion (to answer questions in the order provided, and not to revise previous responses, unless otherwise stated). When participants completed the questionnaire (after approximately 15 minutes), they were debriefed and thanked by the research assistant and provided with a debriefing form (Appendix C) containing more detailed information concerning the hypotheses as well as suggested readings.

Participants received a seven-page questionnaire. The first page provided instructions and gathered demographic information including age, gender, and academic

major (Appendix B). Instructions also asked participants to rank order six purposes of sentencing as to how each one would factor into their sentences if they were a judge: denunciation, separation from society, promotion of responsibility, deterrence, rehabilitation, and reparations to victims. These six purposes are legislated in the Canadian Criminal Code (s. 718) as the objectives that should underlie sentences. Participants were instructed to assign a rank of 1 to the most important purpose of their sentences, et cetera, ending with 6 for the least important purpose. The rankings were expected to serve as a measure of participants' attitudes towards criminal sentencing: for example, a preference for rehabilitation over protection of society (which could encourage less severe custodial sentences). Sentencing goals and ideologies have long been known to differ among individuals (e.g., Carroll, Perkowitz, Lurigio, & Weaver, 1987). Thus, sentences could be regressed on the sentencing goals, the intention being to use participants' sentencing goals as covariates should they factor into their judgments.

The following six pages contained the replicated scenarios in random order. Each participant received two of each type of scenario: normal unavailable, abnormal available, and normal available – the new scenario type. All attempts were made to recreate the previous research paradigms accurately, and case vignettes were taken directly from the respective source literature. This was relatively easy in the case of the abnormal scenarios, as all authors provided them in text, but in most cases the normal (unavailable) scenarios were merely described as "routine," without the specific text provided (e.g., "The routine circumstances scenario was identical except that subjects were told Lucy had visited her regular restaurant," Macrae, 1992, p. 85; "The routine scenarios were identical to the unusual scenarios, with the exception that Jane walked

home via her usual route," Turley et al., 1995, p. 288). All attempts were made to interpret the authors' instructions in a fashion congruent with the original methodologies.

Further changes were made to the scenarios as a result of the repeated presentation methodology (providing six cases consecutively), to avoid extensive repetition. As most of the past scenarios provide little justification for the focal actor's actions, apart from a desire for "a change of pace," it was decided that additional detail was required because participants would be reading six scenarios that needed to differ in order to retain the reader's interest. It was felt that providing the same blanket motivation (a change of pace) for each actor's behavior would rapidly wear thin and result in reduced participant involvement. As a result, in some scenarios the actors were given slightly more detailed scenario-specific justification for their deviation from the norms or consideration thereof (i.e., the normal available scenarios). For example, instead of visiting a new restaurant because she "felt like a change" (Macrae, 1992, p. 85), a woman was said to have desired a new menu. Each scenario remained well within one paragraph (with the exception of the Mr. Jones scenario from Kahneman and Tversky, 1982), and the full vignettes are provided below:

Food Poisoning (Macrae, 1992):

Normal Unavailable. One Saturday evening Lucy decided to go out for an Indian meal. She regularly went to a restaurant at the bottom of her street. On this occasion, she went to the same restaurant. Upon arriving home, at 11:30 pm, Lucy became violently ill. The doctor was called and food poisoning was diagnosed. Lucy was detained in hospital for 4 days and her illness was traced back to the curry she ate in the restaurant.

Normal Available. One Saturday evening Lucy decided to go out for an Indian meal. She regularly went to a restaurant at the bottom of her street. On this occasion, she went to the same restaurant even though she had thought about visiting a new restaurant in the center of town to see if they had any different dishes. Upon arriving home, at 11:30 pm, Lucy became violently ill. The doctor

was called and food poisoning was diagnosed. Lucy was detained in hospital for 4 days and her illness was traced back to the curry she ate in the restaurant.

Abnormal Available. One Saturday evening Lucy decided to go out for an Indian meal. She regularly went to a restaurant at the bottom of her street. On this occasion, however, she went to a restaurant in the center of town she had never before visited, to see if they had any different dishes. Upon arriving home, at 11:30 pm, Lucy became violently ill. The doctor was called and food poisoning was diagnosed. Lucy was detained in hospital for 4 days and her illness was traced back to the curry she ate in the restaurant.

Falling Equipment (Macrae, 1992):

Normal Unavailable. Jane has walked to work each day for the past 2 years. She is very much a creature of habit – always taking the same route to work. One day, on her regular route to the office, she passed some building construction. As she walked along the pavement, a piece of scaffolding fell from the construction and struck her on the back. Jane sustained minor injuries and as a consequence of the incident was detained in hospital for 4 days.

Normal Available. Jane has walked to work each day for the past 2 years. She is very much a creature of habit – always taking the same route to work. One day, she thought about taking a different route to the office, to pass through a new park that had recently opened, but by the time she left home she had decided to stick with her regular route. On the way she passed some building construction. As she walked along the pavement, a piece of scaffolding fell from the construction and struck her on the back. Jane sustained minor injuries and as a consequence of the incident was detained in hospital for 4 days.

Abnormal Available. Jane has walked to work each day for the past 2 years. She is very much a creature of habit – always taking the same route to work. One day, however, she decided that she wanted to pass through a new park that had recently opened, and took a different route to the office. On the way she passed some building construction. As she walked along the pavement, a piece of scaffolding fell from the construction and struck her on the back. Jane sustained minor injuries and as a consequence of the incident was detained in hospital for 4 days.

Mugging (Macrae, Milne, & Griffiths, 1993):

Normal Unavailable. One Saturday evening, Mike was out with some friends in a bar near the centre of town. At about 10.30 p.m., he left the bar and walked home alone. Mike is very much a creature of habit - always taking the same 20-minute route from the centre of town to his apartment. On this particular evening, Mike took his usual route. While walking home, Mike was mugged. Although the

mugger fled the scene of the crime, he was later picked up and charged by the police.

Normal Available. One Saturday evening, Mike was out with some friends in a bar near the centre of town. At about 10:30 p.m., he left the bar and walked home alone. Mike is very much a creature of habit - always taking the same 20-minute route from the centre of town to his apartment. On this particular evening, Mike took his usual route home even though he had thought about taking a different route to walk past a new movie theatre and see what was playing the coming weekend. While walking home, Mike was mugged. Although the mugger fled the scene of the crime, he was later picked up and charged by the police.

Abnormal Available. One Saturday evening, Mike was out with some friends in a bar near the centre of town. At about 10:30 p.m., he left the bar and walked home alone. Mike is very much a creature of habit - always taking the same 20-minute route from the centre of town to his apartment. However, on this particular evening, Mike decided he wanted to walk past a new movie theatre and see what was playing the coming weekend, so he took a different route home. While walking home, Mike was mugged. Although the mugger fled the scene of the crime, he was later picked up and charged by the police.

Convenience Store Shooting (Miller & McFarland, 1986):

Normal Unavailable. Tom has lost the use of his right arm as a result of a gunshot wound. He was shot when he walked in on a robbery occurring in a convenience store in his neighborhood. There are two convenience stores located near Tom's house, one of which he frequented more than the other. On the night he was shot he had gone to the store that he usually frequented.

Normal Available. Tom has lost the use of his right arm as a result of a gunshot wound. He was shot when he walked in on a robbery occurring in a convenience store in his neighborhood. There are two convenience stores located near Tom's house, one of which he frequented more than the other. On the night he was shot he had gone to the store that he usually frequented even though he had thought about going to the other store to look for any beneficial sales or discounts.

Abnormal Available. Tom has lost the use of his right arm as a result of a gunshot wound. He was shot when he walked in on a robbery occurring in a convenience store in his neighborhood. There are two convenience stores located near Tom's house, one of which he frequented more than the other. On the night he was shot he had gone to the store that he rarely frequented, to look for any beneficial sales or discounts.

Rape (Turley, Sanna, & Reiter, 1995):

Normal Unavailable. Sarah works as a secretary at a local company. She has walked the same route home each day for the past two years. On this occasion, she took her usual route. As she was walking home, a man approached her from behind, grabbed her around the neck, threw her to the ground, and raped her.

Normal Available. Sarah works as a secretary at a local company. She has walked the same route home each day for the past two years. On this occasion, she took her usual route home even though she had thought about taking a different route through an unfamiliar section of town, to pass by a friend's house to see if she was in. As she was walking home, a man approached her from behind, grabbed her around the neck, threw her to the ground, and raped her.

Abnormal Available. Sarah works as a secretary at a local company. She has walked the same route home each day for the past two years. On this occasion, however, she decided she wanted to pass by a friend's house to see if she was in, and took a different route home through an unfamiliar section of town. As she was walking home, a man approached her from behind, grabbed her around the neck, threw her to the ground, and raped her.

Auto Accident (Kahneman & Tversky, 1982):

Normal Unavailable. Mr. Jones was 47 years old, the father of three and a successful banking executive. His wife had been ill at home for several months, when he was killed in a car accident.

On the day of the accident, Mr. Jones left his office at the regular time. He sometimes left early to take care of home chores at his wife's request, but this was not necessary on that day. He drove home along his regular route. Mr. Jones occasionally chose to drive along the shore, to enjoy the view on exceptionally clear days, but that day was just average.

The accident occurred at a major intersection. The light turned amber as Mr. Jones approached. Witnesses noted that he braked hard to stop at the crossing, although he could easily have gone through. His family recognized this as a common occurrence in Mr. Jones' driving. As he began to cross after the light changed, a light truck charged into the intersection at top speed, and rammed Mr. Jones' car from the left. Mr. Jones was killed instantly. It was later ascertained that the truck was driven by a teenage boy, who was under the influence of drugs.

Normal Available. Mr. Jones was 47 years old, the father of three and a successful banking executive. His wife had been ill at home for several months, when he was killed in a car accident.

On the day of the accident, Mr. Jones left his office at the regular time. He sometimes left early to take care of home chores at his wife's request, but this was not necessary on that day. He drove home along his regular route even though he

had thought about driving along the shore to enjoy the view because it was an exceptionally clear day.

The accident occurred at a major intersection. The light turned amber as Mr. Jones approached. Witnesses noted that he braked hard to stop at the crossing, although he could easily have gone through. His family recognized this as a common occurrence in Mr. Jones' driving. As he began to cross after the light changed, a light truck charged into the intersection at top speed, and rammed Mr. Jones' car from the left. Mr. Jones was killed instantly. It was later ascertained that the truck was driven by a teenage boy, who was under the influence of drugs.

Abnormal Available. Mr. Jones was 47 years old, the father of three and a successful banking executive. His wife had been ill at home for several months, when he was killed in a car accident.

On the day of the accident, Mr. Jones left his office at the regular time. He sometimes left early to take care of home chores at his wife's request, but this was not necessary on that day. Mr. Jones did not drive home by his regular route. The day was exceptionally clear and Mr. Jones told his friends at the office that he would drive along the shore to enjoy the view.

The accident occurred at a major intersection. The light turned amber as Mr. Jones approached. Witnesses noted that he braked hard to stop at the crossing, although he could easily have gone through. His family recognized this as a common occurrence in Mr. Jones' driving. As he began to cross after the light changed, a light truck charged into the intersection at top speed, and rammed Mr. Jones' car from the left. Mr. Jones was killed instantly. It was later ascertained that the truck was driven by a teenage boy, who was under the influence of drugs.

Following each scenario were a series of questions, starting with the original questions asked in the source studies, typically concerning compensation and punishment. The questions all retained the original scales, with most being measured on a numerical 9-point scale. The only changes to scale points were a correction for inflation and translation into Canadian dollars when necessary (based on April, 2004 exchange rates). In the case of the food poisoning scenario the first three questions concerned monetary compensation for the victim (from "$0" to "$2,600"), negligence on the part of the restaurant (from "none" to "a great deal"), and fine against the restaurant (from "$0" to "$12,900"). The falling equipment scenario contained the same three initial questions, although the compensation scale ranged from "$0" to "$5,200." The mugging scenario

was followed by questions regarding the seriousness of the incident (from "not at all" to "very") and the severity of punishment for the offender (from "slight" to "severe"). The convenience store shooting scenario asked simply how much monetary compensation the victim deserved, on a numerical 11-point scale (from "$0" to "$1.7 million"), with participants being told the typical award is $852,000. The rape scenario was followed by several questions on a numerical 9-point scale ranging from "not at all" to "very much": the degree the rape could have been avoided, feelings of sympathy towards the victim, feelings of positivity towards the victim, how much the victim is at fault, how much the victim feels responsible, how much the victim feels to blame, and to what degree the victim feels regretful. A final question asked participants for a recommended punishment for the rapist, on a numerical 21-point scale ranging from "0 years" to "20 years." The auto accident scenario involving Mr. Jones used a numerical 9-point scale, and asked how much compensation his family should receive, from "$0" to "$3.4 million" as well as how severely the perpetrator should be punished, ranging from "slight" to "severe."

The original questions were followed by a common series of questions inspired by those used in Turley et al. (1995), regarding avoidance, sympathy, victim fault, and victim responsibility (all using a numerical 9-point scale ranging from "not at all" to "very much"): the exception to this pattern being the Mr. Jones scenario in which I omitted the responsibility question to avoid running off on to a second page.

Lastly, participants were asked to provide completions to two "If only..." statements regarding thoughts the victims (or their survivors) would likely have in the days following the incident described. These measures served as a manipulation check, to determine if the effects of alternative availability would be evident in participants' self-

generated counterfactual statements. Responses were coded according to what facet of the scenario to which they pertained (e.g., route, timing, etc.), including an "Other" category for statements appearing only once or twice (e.g., "If only I wasn't so appealing," in the case of the rape scenario!).

Variables and Specific Predictions

The independent variables for each scenario in this study were scenario normality (normal vs. abnormal) and scenario alternative availability (unavailable vs. available), combined in a fractional design resulting in three conditions: normal unavailable (NU), abnormal available (AA), and normal available (NA). With limited participant resources anticipated, there were three conditions of primary importance under study rather than the four conditions possible using a full factorial design (the fourth being abnormal unavailable). The dependent variables differed between the scenarios as detailed above, although three shared dependent measures did exist: avoidability, sympathy, and victim blame. As well, a fourth measure – punishment – could be analyzed across all scenarios if so desired by regarding fines, subjective ratings of punishment, and/or objective sentences. From this perspective each scenario had some measure of punishment.

The between-subjects design allowed for the dependent measures in each scenario to be analyzed using planned repeated contrasts of the NU and AA conditions (the traditional measure of normality), and the NU and NA conditions (a measure of availability). Orthogonal planned contrasts have the advantage of greater power as there is no need to adjust the alpha-level downward to compensate for multiple comparisons (as would be necessary for post-hoc comparisons). The required omission of the AA-NA contrast (to maintain orthogonality) was considered acceptable due to the fact that such a

comparison would be another measure of normality when in fact availability was of greater interest.

Following from the results of the original studies I was replicating, I predicted that a main effect of normality would appear when contrasting normal (unavailable) and abnormal (available) conditions (NU versus AA). Abnormal available scenarios were expected to prompt higher compensation, more severe punishment, and stronger affect than were NU scenarios. Given my hypothesis concerning the effect of availability I also expected a main effect of availability when comparing NU and NA conditions. I predicted that NA scenarios would result in compensation, punishment and affect significantly higher than that measured for the NU scenarios.

My manipulation check – the "if only..." sentence completion – was based on the degree to which counterfactual completion mirrored the alternative upon which the respective scenario was based. I predicted that the NU scenarios would prompt fewer completions involving the alternative used to create the scenarios (e.g., change in route, location, etc.) than the other two conditions, which included equally highly available alternatives (yet differed in normality). A final manipulation check was intended to determine if participants were adequately attending to the individual scenarios: I predicted that a within-subjects main effect of scenario would emerge, indicating that participants were responding differently across scenarios. All analyses were conducted based on a Type 1 error-rate of .05 unless otherwise indicated.

Results and Discussion

The counterfactual sentence completion ("if only...") statements were analyzed using chi-square analyses of the number of total statements coinciding with the implicit

counterfactual prompted by each scenario (e.g., different restaurant, different route, etc.). Comparisons were made between each group based on the proportion of participants mentioning the underlying alternative in their sentence completion statements. The chi-square analysis was performed under the null hypothesis that all three groups would display equal degrees of reference to the underlying alternative, therefore significant values would be indicative of discrepancy between the groups.

Descriptive statistics and chi-square analyses for sentence completions are provided in Table 1. Normal unavailable scenarios frequently resulted in decreased frequency of implicit counterfactual reference (i.e., few references to the choice of route, restaurant, store, etc.). However, AA and NA scenarios were more equal in terms of frequent references to the most obvious counterfactual. In particular, the falling equipment, mugging, and rape scenarios showed the most significant findings, evidence that the manipulation was effective in equalizing the normal and abnormal conditions in terms of availability. The food poisoning scenario was also suggestive of this pattern, with substantially fewer mentions made of the restaurant choice by participants in the NU condition. On the other hand, the store shooting scenario did not provide strong evidence for a discrepancy between conditions, with relatively frequent reference made to the store visited. This effect could have been the result of the inclusion of a statement mentioning the existence (although not consideration) of another store in the same neighbourhood. The strength of the availability manipulation could have been substantially reduced as a result.

In a surprising twist, the Mr. Jones auto accident scenario showed equally *low* reference to the manipulated alternative – route taken – in all three conditions, in rather

Table 1.

Proportion of participant reference to primary alternative for victim's behavior (location visited or route taken) during sentence-completion task; and One-way Chi-Square Goodness-of-Fit Test.

Scenario Type	Condition			
	NU	NA	AA	$\chi^2(2)$
Food Poisoning	.59	.82	.86	1.24
Falling Equipment	.23	.78	.81	7.85*
Mugging	.30	.90	.91	6.83*
Store Shooting	.81	.82	.83	0.11
Rape	.05	.74	.86	15.78*
Auto Accident	.26	.29	.32	0.11

* $p < .05$

stark contrast to the other five scenarios. Regardless of normality or availability, few references were made to the route that Mr. Jones traveled. The apparently unusual findings should be viewed in the context of Kahneman and Tversky's (1982) published frequencies of counterfactual completion. Examining the response frequencies for counterfactual stem completion that Kahneman and Tversky obtained reveals only 127 counterfactuals were provided by 124 participants: the vast majority of participants provided only one sentence completion. Certain factors not discussed by Kahneman and Tversky may have influenced the participants' particular choice of alternatives to mutate, which can assist in interpreting my own results.

In Kahneman and Tversky's original Time and Route scenarios each routine version of one circumstance was paired with an exceptional version of the other, resulting in only two scenarios as opposed to a possible four had a 2 x 2 design been utilized. As Wells et al. (1987) noted, such a methodology prevented an isolation of normality effects given that "changing one event from an exception to a norm was always associated with changing the other event from a norm to an exception," (p. 426). It is possible that participants reading the Mr. Jones stories in Kahneman and Tversky's (1982) experiment were merely providing the most salient counterfactual – prompted by the exceptional route or time – and then stopping. For example, in the exceptional route (routine time) version of the story 33 participants referenced the route during stem completion. In the routine route (exceptional time) version, 8 participants referenced the route. The question exists as to whether participants mutated the route less frequently because it was routine, or because time was exceptional. Had time not been such a salient alternative in the routine route version, participants may very well have referenced the route to a greater

extent. A more isolated manipulation of route or time, without interference from the second factor – such as my own version of the route scenario – might be expected to reveal less extreme differences in the frequency of stem completion, which my results clearly indicate.

Similarly, both route and time could simply be weakly available antecedents. In fact, of 65 counterfactuals generated in the original route version, only 33, barely half, referred to the route as a mutable antecedent. The situation was even worse for the time version, in which only 16 out of 62 counterfactuals incorporated a time mutation. It would appear, then, that the Mr. Jones scenario is not particularly effective at encouraging counterfactuals containing the "intended" content, merely at demonstrating differences between the content of route and time versions (which may have been confounded by pairing the alternatives). The results are not too surprising given the clear evidence that temporally proximal (independent) events are more likely to be mutated (e.g., Miller & Gunasegaram, 1990): the time and route antecedents are the most temporally distal events in the temporal chain leading up to Mr. Jones' accident. In both Kahneman and Tversky's (1982) and my own versions of the Jones scenario, a substantial proportion of participants preferred to mutate the events towards the end of the story, such as Mr. Jones' halt at the traffic light, or the behavior of the intoxicated teenage driver who collided with him. For example, in my data, 29 and 26 out of 117 counterfactuals concerned the traffic light stop and the intoxication of the teenager, respectively, versus only 19 that reversed the route decision (be it towards routine or exception). Similarly, nearly half the mutations in Kahneman and Tversky's route version pertained to the traffic light or the boy, and a full two-thirds did so in the time version.

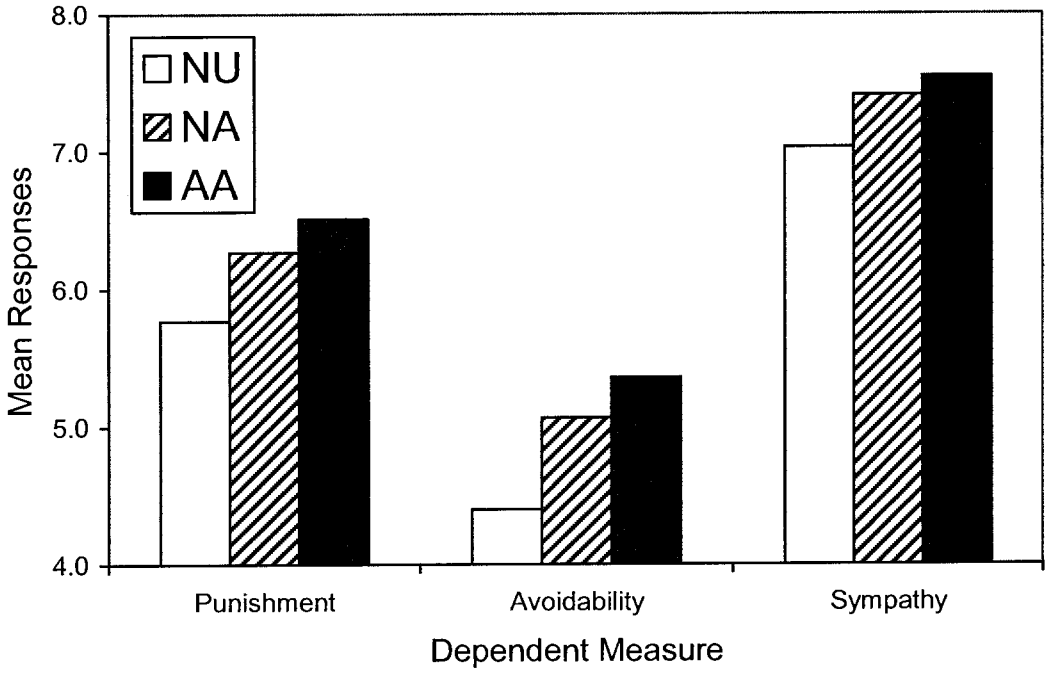
It is important to note that mutations influenced by temporal proximity have shown the reverse pattern in causal chains (in which each event is said to precipitate the other), which differ from the independent events in temporal chains (Wells et al., 1987). Some may be tempted to argue that the Mr. Jones scenario is a causal chain, but, I would disagree given that none of the events, either implicitly or explicitly (as in Wells et al.), caused the subsequent events. For example, leaving work early or taking a different route did not cause Mr. Jones to stop at the amber light, nor did stopping at the amber light cause the teenage driver's intoxication.

In general, the counterfactual sentence completion statements tell a great deal about how the availability manipulation fared. As put forth in Norm Theory (Kahneman & Miller, 1986) and suggested by several empirical findings (e.g., Kahneman & Tversky, 1982; Wells et al., 1987), abnormal antecedents are said to be more likely to be undone than normal ones. This result was easily duplicated, as abnormal antecedents were undone twice as frequently as their respective similar normal antecedents; but this effect was constrained to the *normal-unavailable* condition only. Normal-Available antecedents were just as likely to be undone than those that defied the norm. Simply describing normal scenarios in the same terms used to convey abnormal scenarios produced a dramatic change. This finding suggests that previous manipulations of normality were confounded with the counterfactual activation invoked by the descriptions used to convey normality itself. In fact, normal antecedents are not always harder to undo than are abnormal antecedents, they have merely been described in terms that reduce the frequency of undoing.

Prior to analyzing the individual dependent measures for each of the six scenarios I performed a repeated measures multivariate analysis of variance (MANOVA) upon the four dependent measures that were shared across scenarios (punishment – be it fine or prison sentence, avoidability, victim sympathy, and victim fault). For the rape scenario the punishment measure was converted to a 9-point scale for the purposes of this analysis (all other scenarios included 9-point scales). Scenario (food poisoning, falling equipment, mugging, shooting, rape, auto accident) was the within-subjects variable and condition (normal unavailable, abnormal available, normal available) was the between-subjects variable for this analysis. As expected, there was a multivariate within-subjects main effect of scenario, $F(20, 44) = 24.00$, $p < .001$, partial $\eta^2 = .92$. This manipulation check result indicated that participants responded differently across the scenarios: not simply punishing all offenders equally, or reporting feeling equally sympathetic for all victims. The results were interpreted as suggestive of positive participant involvement. Beyond manipulation checks, I expected a between-subjects multivariate main effect of condition; this effect was also observed, $F(8, 120) = 3.13$, $p < .01$, partial $\eta^2 = .17$. Planned repeated contrasts revealed significant differences between AA and NU scenarios in punishment, $t(64) = 2.66$, $p = .01$; avoidability, $t(64) = 3.49$, $p < .01$; and a marginally significant difference in sympathy, $t(64) = 1.70$, $p = .09$. Significant differences between NU and NA scenarios existed for avoidability, $t(64) = -2.42$, $p = .02$; and marginally for punishment, $t(64) = -1.83$, $p = .07$. Remaining contrasts were not significant below the $p = .20$ level. Figure 1 illustrates the most relevant effects, showing that abnormal available scenarios prompted the highest responses, but followed very closely by the responses to normal available scenarios. The direction of mean differences and results supported the

Figure 1.

Mean responses for NU ($n = 22$), NA ($n = 22$), and AA ($n = 22$) groups in punishment, avoidability, and sympathy measures.



hypothesis that responses to AA and NA scenarios would differ from responses to NU scenarios.

Guided by the multivariate and contrast findings in the earlier repeated measures analysis, individual comparisons of the particular dependent measures in each scenario were performed using planned repeated contrasts: between the NU and AA conditions (as in a typical counterfactual study), and between the NU and NA conditions (to determine if increased availability influenced responses). Table 2 includes the full results of the contrasts, including the nearly unanimously lower responses to NU scenarios than to NA and AA scenarios. Although not all of the contrasts were statistically significant, it is telling that the vast majority leaned in the same direction. It can be seen that although AA scenarios prompted the strongest responses by participants, they are consistently followed by responses to NA scenarios, and lastly by responses to NU scenarios.

The failure to find any significant effect of availability in the measure of fault appeared to be the result of a floor effect, in that all responses to the fault measure were very low ($M = 2.01$, $SD = 1.50$) on the 9-point scale. In fact, a comparison of the fault and responsibility assigned to victims revealed a significant difference across the five scenarios incorporating both measures, $t(334) = -10.53$, $p < .001$. Participants believed that the victims would view themselves more responsible ($M = 3.22$, $SD = 2.17$) than they actually were at fault ($M = 1.84$, $SD = 1.26$). Unlike the fault measure, the responsibility measure did display an effect of condition: AA scenarios provoked stronger attributions of responsibility than did NU conditions, $t(64) = 2.66$, $p = .01$. A difference between NU and NA conditions, although in the expected direction, was not statistically significant, $t(64) = -.82$, $p = .41$.

Table 2.

t-test (df = 64) contrast results for all dependent measures across scenarios

Measure	Scenario					
	Lucy	Jane	Mike	Tom	Sarah	Jones
Incident Seriousness						
AA vs. NU			*1.34*			
NU vs. NA			*-0.57*			
Victim Compensation						
AA vs. NU	*1.67*	*0.95*		*1.*08		0.33
NU vs. NA	*-0.30*	*-0.51*		*0.00*		0.32
Offender Negligence						
AA vs. NU	*2.36***	*1.35*				
NU vs. NA	*-1.35*	*-0.24*				
Offender Punishment						
AA vs. NU	*2.56***	*1.62*	*2.06***	1.33	*-0.35*	1.10
NU vs. NA	*-1.84**	*-0.93*	*-0.94*	-0.81	*-0.49*	-0.43
Incident Avoidability						
AA vs. NU	2.30**	1.19	0.88	1.60	*1.52*	0.91
NU vs. NA	-1.22	0.06	-1.02	-1.11	*-0.69*	-1.62
Victim Sympathy						
AA vs. NU	1.14	0.11	*1.66*	2.23**	*0.08*	1.35
NU vs. NA	-0.61	-0.55	*-1.32*	-1.99*	*0.46*	-0.57
Victim Positivity						
AA vs. NU					*0.22*	
NU vs. NA					*0.02*	
Victim Fault						
AA vs. NU	0.96	1.09	1.45	0.49	*0.00*	1.81*
NU vs. NA	-0.96	-0.44	-1.70*	-0.66	*0.21*	-0.21
Victim Responsibility						
AA vs. NU	1.87*	2.24**	1.41	1.74*	*0.95*	
NU vs. NA	-0.60	-0.43	-0.63	-1.35	*0.25*	
Victim Self-blame						
AA vs. NU					*1.10*	
NU vs. NA					*-0.64*	
Victim Regret						
AA vs. NU					*1.78**	
NU vs. NA					*-0.84*	

Note: Italicized values represent measurements which were included in original studies.
* $p < .10$, ** $p < .05$

Given the disparity in replicable findings, despite macro-level effects (the RM MANOVA), there were obviously questions concerning power and sample size. In the original studies, sample size ranged from approximately $n = 20$ (in Macrae, 1992) to $n = 60$ (in Kahneman & Tversky, 1982), but centered around a mean of approximately $n = 30$. While not far off, my own group sizes of 22-23 were unfortunately lower than those of the majority of the original studies. It was possible to calculate effect sizes, and subsequently the power of the original methodologies based on the inferential statistics (t and f-values) and degrees of freedom (assuming two-tailed tests), and thus determine, post-hoc, the power of my replications. Table 3 includes statistics for selected variables from the original scenario studies I replicated, and the power expected to result from comparing groups in the replicated scenarios used in my research. As can be seen, given the similarity in sample sizes, my own replications should have resulted in similar or even greater power, with the exception of the store shooting scenario pioneered by Miller and McFarland (1986), who managed to gather a total sample size surpassing 160 participants in three conditions (later collapsed to two conditions). Any failure to replicate particular effects of normality could be the result of failures, or even type 1 errors, in the original research methodologies and interpretations.

The many statistical results of Study 1 are best understood when seen as a whole. If one regards each of the six study replications and the dependent measures within individually, then the findings were surprising. Only the results of the Macrae and Milne (1992) food poisoning scenario, and the Macrae (1993) mugging scenario replicated the original primary findings. The food poisoning scenario prompted judgments of greater restaurant negligence and fine in the abnormal condition versus the

Table 3.

Selected effect sizes and power of original scenario studies compared to expected power of replicated scenarios assuming consistent effect size and $n = 22$.

Scenario and Measure(s)	*n*	Cohen's d	Original Power	Replicated Power
Food Poisoning	20			
Compensation		.59	.44	.48
Fine		.68	.55	.59
Falling Equipment	20			
Compensation		.77	.66	.70
Fine		.94	.83	.86
Mugging	25			
Punishment		1.05	.95	.92
Shooting	60			
Compensation		.34	.54	.20
Rape	30			
Punishment		.53	.52	.40

normal unavailable, and the mugging scenario illustrated greater offender punishment in the abnormal condition. Despite an inability to replicate some of the findings showing differences between NU and AA conditions for the primary dependent measures of the remaining scenarios, there were some notable differences between the available and unavailable scenarios. When combined, many of the available results offered support for the current proposal: when more explicit alternatives are provided for the normal condition, the previously witnessed effect of normality can be reduced – abnormal and normal scenarios do not provoke substantially different degrees of affect and judgment.

The strongest evidence backing my claim that alternative availability may be a component of the influence of normality were the results of the repeated measures MANOVA illustrating greater overall punishment in the available conditions, as well as views that the available scenarios were more avoidable. By presenting normal scenarios that participants viewed as equally avoidable to abnormal scenarios, it appears that at least punishment, and to some extent sympathy, was equally strong, versus a normal condition in which alternatives were less available. This finding contradicted some of the accepted conclusions of the counterfactual literature, which takes the view that normality alone influences content, along with subsequent affect and judgments: "Counterfactual content recapitulates normality by altering antecedents that are unusual back to their normal values," (Roese, 1997, p. 135); "...evidence, however, suggests that the emotional effects are mediated only by content effects," (p. 140). While it is likely that normality continued to influence content to a certain extent (as hinted at by Figures 1 and 2), the results of Study 1 indicated that, at the very least, an additive effect of normality

and availability may exist, such that in cases of high alternative availability the normality differences in the degree of undoing, and responses to such, can be mitigated.

CHAPTER 3

Study 2

My first investigation into the influence of alternative availability suggested that there is indeed an effect upon the relationship between normality and content. Alternative availability seemed to influence judgments to the multitude of legal and criminal situations in Study 1, beyond the influence of normality. As a result, an original scenario study along similar lines incorporating a manipulation of availability was expected to reveal further detail concerning the effect of availability. Study 1 showed that the influence of normality can be somewhat reduced by ensuring that the normal scenario does not differ too greatly from its abnormal counterpart in terms of the explicitness of antecedent alternatives. Study 2 involved a more elaborate and multi-faceted manipulation of antecedent normality and alternative availability, using one detailed victimization scenario experienced in a more realistic context than previously utilized. The scenario concerned a victim who was shot and wounded when he stumbled upon a gas station robbery. In describing the scenario I manipulated not only both victim and offender normality, but also the overall alternative availability – whether or not explicit reference was made to the alternative settings.

Research concerning counterfactual thinking and specific criminal punishment is scarce, with even fewer researchers providing participants with legally relevant procedures matching facets of the justice system such as sentencing law (for exceptions see Greene & Darley, 1998; Wiener et al., 1994). Even Turley et al. (1995), who used a specific, objective measure of sentencing, failed to indicate why a 20-year scale was used, nor did they provide any instructions to participants regarding the law surrounding

rape and sexual assault sentencing. Although measures of victim compensation have more successfully incorporated objective scales (i.e., dollar amounts), authors such as Macrae and Milne (1992), and Miller and McFarland (1986) seemed to have used arbitrary amounts to anchor their scales. Without using legally-relevant measures, and ensuring participants are at least somewhat aware of the relevant legal restrictions and requirements, authors cannot hope to achieve an adequate degree of external validity, despite claims of practical significance (e.g., "These findings have undoubted practical relevance...implications for the perception and evaluation of actual intentional criminal behavior," Macrae, 1992, p. 87). As a result, in order to build upon the rare legally-relevant methodologies used in the past, I incorporated details of the Canadian Criminal Code into my instructions and measures, including provision for specific custodial sentences. I also included questions concerning support for the legislated goals of sentencing to control for participants' pre-existing punishment tendencies (e.g., support for rehabilitation versus social separation of offenders). Doing so would allow for the basic research under examination to achieve a higher degree of external relevance as well as lead to suggestions for further applied research streams.

The goals in Study 2 were to control for the confounding influence of alternative availability upon participants' judgments in response to normality manipulations. In order to do this I selectively removed reference to the considerations of alternative courses of action for each party (victim and offender) in half the scenarios. With few available counterfactuals, the influence of normality alone could be investigated simply by varying the familiarity of the locale in which each party found himself. Given my ideas concerning the influence of alternative availability as well as evidence from Study 1

hinting at an additive effect of normality and availability, I predicted a main effect of alternative availability in this experiment. More explicit alternatives were expected to prompt stronger affect and thus more severe judgments. The effects of normality, while not eliminated, were expected to be moderated by availability, such that when alternatives were similarly available the disparities between normality conditions would be reduced (as they were between the NA and AA conditions in Study 1). In addition I endeavored to extend the minimal findings involving assailant behavior, in order to determine what role an assailant's behavior played in cases of legal counterfactuals by varying offender normality (and availability) in addition to that of the victim.

Method

Participants

The participants were 208 undergraduate students at the University of Victoria who participated for partial course credit. Participants were recruited through instructions provided in introductory and psychology courses, and signed up for experiments through an online internet scheduling system. Participants ranged in age from 17 to 55 years (M = 19.58, SD = 3.43). There were 51 males and 156 females.

Materials and Procedure

Participants were presented with one of eight versions of a two-page questionnaire beginning with a short description of a victimization scenario in which a man was shot and wounded during a gas station robbery when he stopped during a road trip. The victim was described as either attending a familiar gas station down the street from his house shortly after setting out, or an unfamiliar one several hours away when he stopped for lunch. The offender, a man with several previous convictions for robbery,

was described as either robbing a gas station in a neighbourhood he had victimized before, or in a distant town he had not before visited. To reduce alternative availability, no mention was made of the alternative circumstances; as a result the provision of alternatives remained low for such conditions. In this way it was possible to convey abnormality without simultaneously priming the reader with counterfactuals. Scenarios with high alternative availability were those including explicit mention of the each party's considerations concerning visiting the alternative gas station. The first of four scenarios (low alternative availability) is detailed below - incorporating familiar circumstances for both victim and offender - and italicized text modified for the abnormal scenarios as shown subsequently.

Victim-Normal, Offender-Normal:

Dennis K. went on a trip last month. *As he left on his journey, he decided to stop for gas at a station down the street from his house just as he usually does.* After filling up his gas tank, Mr. K. entered the kiosk to pay and found himself in the middle of a robbery. The robber, Ben M., had a gun and during a scuffle with the robber, Mr. K. was shot and wounded. Meanwhile, the store owner managed to alert the police, who arrived moments later. After a brief foot chase, Mr. M. was apprehended by the police and charged with one count of robbery (firearm), and one count of causing bodily harm with intent (firearm). The victim, Mr. K., was briefly hospitalized and is now recovering from his injuries.

At the trial, the accused, Mr. M., pleaded guilty to both charges. *The accused had several previous convictions for robbery, all of which were carried out in the same neighbourhood where the current offence took place. At the trial, Mr. M. admitted that he intended to commit a robbery in the same neighbourhood in which he had committed the previous thefts.*

Victim-Abnormal:

...On his journey he stopped to fill up the gas tank in a unfamiliar town about two hours after he set out when he stopped somewhere for lunch...

Offender-Abnormal:

...The accused had several previous convictions for robbery, all of which were carried out in a different city than the one where the current offence took place. At

the trial, Mr. M. admitted that he intended to commit a robbery in a different city than the one in which he had committed the previous thefts.

Changes to make counterfactuals more available to readers were accomplished by providing more information about each party's initial considerations, as follows:

Victim-Normal:

...As he left on his journey, he first thought about filling up his car's gas tank in about two hours when he would stop somewhere for lunch, but then decided to stop for gas at a station down the street from his house just as he usually does...

Victim-Abnormal:

...As he left on his journey, he first thought about stopping for gas at a station down the street from his house just as he usually does, but then decided to fill up the gas tank in about two hours when he would stop somewhere for lunch...

Offender-Normal:

...The accused had several previous convictions for robbery, all of which were carried out in the same neighbourhood where the current offence took place. At the trial, Mr. M. admitted that he intended to commit a robbery but had first considered carrying it out in a different city than the one in which he had committed the previous thefts.

Offender-Abnormal:

...The accused had several previous convictions for robbery, all of which were carried out in a different city than the one where the current offence took place. At the trial, Mr. M. admitted that he intended to commit a robbery but had first considered carrying it out in the same neighbourhood in which he had committed the previous thefts.

As a result, the scenarios were still able to convey the degree of familiarity of each party's circumstances, but at the same time prime counterfactuals equally for both circumstances by providing information about the considerations of the victim and offender. Participants were thus aware of both the normal *and* abnormal alternatives, respectively, to each party's actions. In the past only the normal alternatives have been faithfully provided, as part of the description of abnormal circumstances.

After reading the scenario, participants were instructed to take on the role of a judge who must sentence the offender after his conviction for robbery and causing bodily harm with intent, and were asked to answer several questions pertaining to attributions of responsibility, recommended punishment, confidence in sentencing, and sentencing goals, all while free to refer back to the case materials (the scenario). For judgments of responsibility participants were asked to what degree both the victim and offender were responsible for the injuries the victim received; as well as to what degree the offender was responsible for the robbery of the gas station. Each question was answered on a numerical 7-point scale ranging from "not at all" to "completely responsible."

On the following page, participants were asked to assign a precise custodial sentence for the offender (Appendix D). Instructions precisely stated the sentencing restrictions for the case, similar to Canadian law:

> Now, imagine that you have found the defendant guilty of one count of robbery (firearm) and one count of causing bodily harm with intent (firearm). As the criminal court judge, you must now make a sentencing decision for each offence. Both offences have a minimum sentence of 4 years imprisonment. Robbery has a maximum sentence of life imprisonment and causing bodily harm has a maximum sentence of 14 years imprisonment. The sentences for both offences must be served consecutively, which means a total sentence of at least 8 years must be given.
>
> Considering both the facts of the case and the sentencing guidelines provided, your next task is to provide the offender with a sentence for each of the two charges in the order in which they appear. Feel free to refer back to the case information as you please.

Participants were provided with open-ended response options in terms of the length of sentence, including the option of checking a box for life imprisonment on the robbery charge – coded as 25 years.

Following sentence recommendations participants were asked to record their confidence in the appropriateness of their sentencing decisions using a numerical 10-point scale ranging from "not at all confident" to "completely confident." Participants were then asked to indicate how the intentions and actions of both the victim and offender (four questions) contributed to their sentence recommendations, by assigning a number between 0 and 10 to represent how important each factor was to their sentencing decision. Participants were instructed that a rating of 0 would indicate a factor was not important at all, and 10 would indicate a factor was extremely important.

Lastly, participants rank-ordered the six goals of sentencing, as in Study 1: denounce unlawful conduct, deter the offender and others, separate the offender from society, rehabilitate the offender, promote a sense of responsibility, and provide reparations to victims/society. These rankings were followed by measures of gender, age, and academic major to provide for basic demographic information.

Variables and Specific Predictions

There were three main independent variables in this study: normality of the victim's behavior, normality of the offender's behavior, and alternative availability. Normality was manipulated by the behavior of the target party in the scenario, either normal (attending a familiar locale) or abnormal (attending an unfamiliar locale). Alternative availability was manipulated by varying whether or not explicit mention was made of the alternative consideration of the parties involved (victim and offender). The resulting design was a 2 (Victim Behavior: Normal vs. Abnormal) x 2 (Offender Behavior: Normal vs. Abnormal) x 2 (Alternative Availability: Low vs. High) between-subjects factorial.

The primary dependent variables in this study were the attributions of responsibility for the offender (for the injuries to the victim, and for the robbery), and the sentences for robbery and bodily harm. My hypothesis of a main effect of availability meant that I predicted highly available alternatives would prompt stronger degrees of responsibility attributed to the offender, as well as more severe sentences. Given the results of Study 1 concerning normality, I also predicted an interaction between availability and victim normality in the responsibility and/or sentencing measures. Although Study 1 did not examine the two-way interaction between availability and normality, the results seemed to indicate that the influence of normality could be reduced when crossed with availability, on at least one level (highly available alternatives). With little previous evidence concerning offender behavior outside of a sexual assault case (e.g., Turley et al., 1995), I did not make any specific predictions concerning offender normality.

Results and Discussion

Measures of responsibility and punishment were analyzed using three-way univariate ANOVAs with victim normality, offender normality, and availability as the between-subjects factors. I predicted that a main effect of availability would emerge among responsibility measured, which was evident on the measure of offender responsibility for injuries, $F(1, 200) = 4.00$, $MS_E = .43$, $p < .05$, partial $\eta^2 = .02$. When alternatives were highly explicit in the scenario, participants felt the offender was more responsible ($M = 6.60$, $SD = .62$) than when alternatives were less available ($M = 6.40$, $SD = .69$). Given the descriptive statistics, the importance of the responsibility measure was suspect, although in one sense is does fit with the Norm Theory (Kahneman &

Miller, 1986) notion that avoidability (through provision of available alternatives) amplifies responses. However, there were no significant effects of normality or availability in attributions of victim responsibility (smallest $p > .13$), nor in the measure of offender responsibility for robbery (smallest $p > .35$). As a result the initial findings of an availability effect in responsibility for injuries remain suspect. Interestingly, victims were seen as somewhat responsible for their fate ($M = 2.22$, $SD = 1.36$); this difference was significant compared to the minimum score of 1 ("not at all responsible"), $t(207) = 12.93$, $p < .001$.

Prior to examining sentences for effects of normality or availability, I performed a correlational analysis between sentences and sentencing goals. The robbery and bodily harm sentences themselves were significantly correlated, $r(207) = .38$, $p < .001$, and more importantly, both sentences were correlated with participant support for the separation motive in sentencing, $rs(204) = -.20$, $p < .01$. Sentencing severity increased as participants indicated greater support (lower numbers indicate higher rankings) for separating offenders from society as a goal of sentencing.

Sentences were analyzed using univariate ANOVA, similar to the analyses for responsibility. Despite predicting a main effect of availability, there was no significant influence upon either sentence (smallest $p > .12$). This result was not improved through the use of the separation motive as a covariate. There were no main effects of offender normality upon either sentence (smallest $p > .40$). However, a marginally significant main effect of victim normality was evident for robbery sentences, $F(1, 199) = 3.26$, $MS_E = 40.76$, $p = .07$, partial $\eta^2 = .02$. In addition, a significant main effect of victim normality was evident for bodily harm sentences, $F(1, 199) = 4.50$, $MS_E = 11.57$, $p = .04$,

partial $\eta^2 = .02$. In both cases, sentences were more severe when the victim had behaved abnormally – was in unfamiliar circumstances – as shown in Figure 2. Despite being the arguable less severe crime, sentences for robbery were higher, with larger degrees of error, most likely as a result of a maximum sentence of life in contrast to the 14 year maximum afforded for bodily harm (a peculiarity of the Canadian Criminal Code). Using the separation motive as a covariate did not influence any of the sentencing findings in a noteworthy fashion.

Although availability did not seem to influence sentences, an ANOVA of the total sentence given (participants were advised the sentences were to be served consecutively) revealed a potential influence of alternative availability that qualified the main effect(s) of victim normality upon sentences. Although the interaction itself was not significant ($p = .245$), the descriptive statistics showed a simple effect of victim normality when counterfactuals were available, $F(1, 102) = 5.95$, $MS_E = 67.89$, $p = .02$, partial $\eta^2 = .03$. The effect was not apparent when counterfactuals were unavailable (see Figure 3). The results suggest that removing explicit mention of alternatives from the scenarios reduced the influence of normality, while retaining mention allowed the traditional normality effect to emerge.

The measure of confidence in sentences, while having the potential to be used as a covariate with sentences themselves, did not correlate significantly with either sentence, rs $< .13$. Confidence was analyzed using a three-way univariate ANOVA, as were responsibility measures and sentences. No significant effects of either normality or availability were found, all Fs < 2.13.

Figure 2.

Mean sentences for robbery and bodily harm (+ 95% CI) in victim normal (n = 104) and victim abnormal (n = 103) groups.

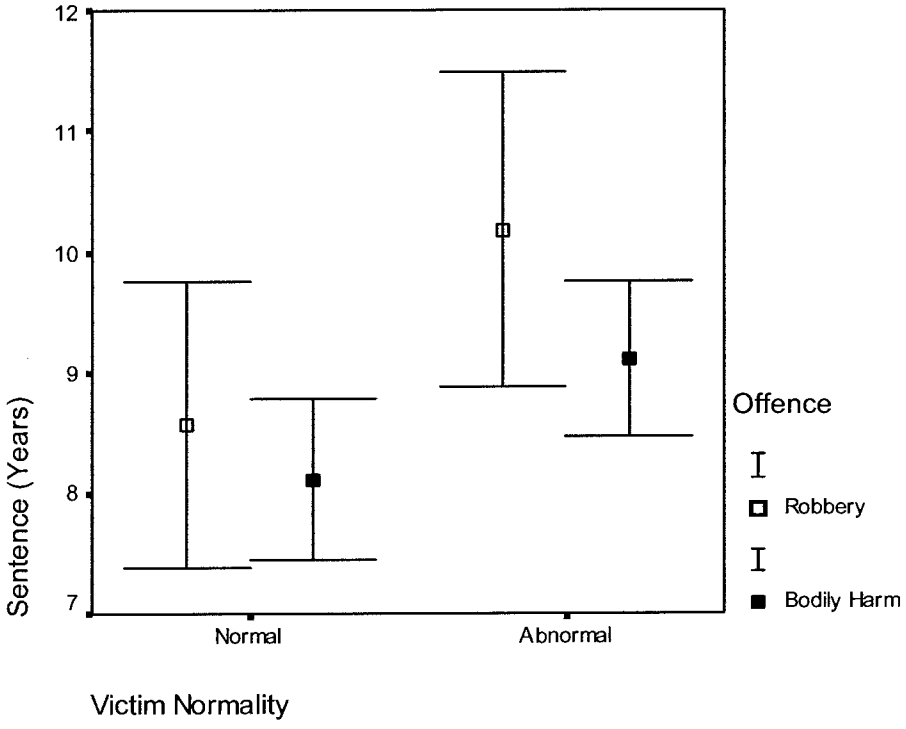
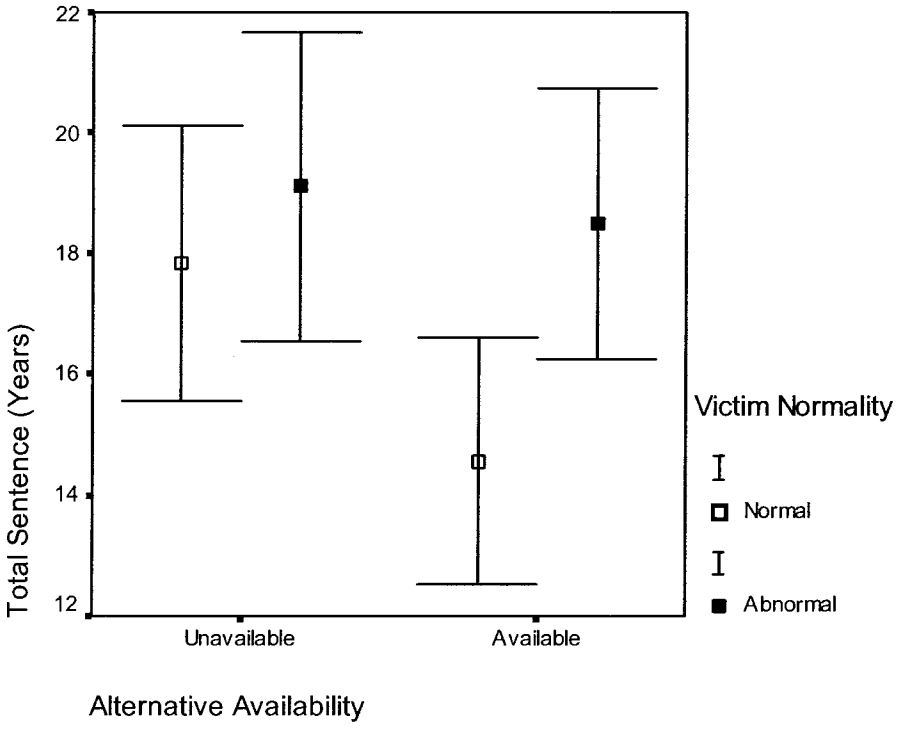


Figure 3.

Mean total sentence (+ 95% CI) for normal unavailable (n = 52), abnormal unavailable (n = 51), normal available (n = 52), and abnormal available (n = 52) groups.



The degree of importance participants ascribed to the actions of the victim and offender were analyzed with two-way ANOVAs, with victim and offender normality as the between-subjects factors. Including availability in this analysis was deemed unnecessary given that the actions of the victim and offender did not differ across availability – only normality manipulations changed their actions. The only significant finding was a main effect of victim normality upon importance of victim actions, $F(1, 203) = 4.63$, $MS_E = 10.07$, $p = .02$, partial $\eta^2 = .02$. In fitting with the sentencing findings, participants viewed the actions of the victim as more important when his behavior was abnormal ($M = 4.33$, $SD = 3.13$), than when it was normal ($M = 3.38$, $SD = 3.24$).

The degrees of importance participants ascribed to the intentions of the victim and offender were analyzed using one-way ANOVAs with availability as the between-subjects factor. Similarly to how actions were analyzed, normality was not a factor in the intentions analysis given that the intentions of both victim and offender remained the same across normality conditions, only changing with the manipulation of alternative availability (which referred to their choice of locale). A main effect of availability was found for importance of victim intentions, $F(1, 205) = 5.39$, $MS_E = 10.01$, $p = .02$, partial $\eta^2 = .03$; and for importance of offender intentions, $F(1, 205) = 5.41$, $MS_E = 3.62$, $p = .02$, partial $\eta^2 = .03$. Oddly, in both cases participants felt each party's intentions were more important in the unavailable conditions – when explicit alternatives were not mentioned. In the case of victim intentions available alternatives incited ratings of decreased importance ($M = 2.20$, $SD = 3.10$) versus unavailable alternatives ($M = 3.22$, $SD = 3.23$). Similarly so for offender intentions: available, $M = 8.41$, $SD = 2.09$; unavailable, $M = 9.03$, $SD = 1.69$.

Despite no differences across conditions in responsibility measures, in general participants viewed the victim as significantly responsible for his fate, and felt that his actions were important in influencing their judgments. Whether or not this effect was simply an avoidance of floor responses (the lowest response) by participants is unknown. In every case the offender was still judged as more responsible, and as having performed actions that were more important. It could be that participants were reading too much into the scenario, in which the victim is described as involved in a "scuffle" with the robber, resulting in his shooting. Such a phrase could be taken to mean that the victim actively interfered with the robbery, leading participants to judge his actions important, and his responsibility greater than nil.

Although my predictions concerning main effects of availability upon the measures of responsibility and sentencing were not born out, the results of Study 2 were in agreement with my earlier findings showing at least some influence of availability upon the theorized normality-content-judgment conduit. When the abnormal conditions were altered to more closely approximate the descriptive style used in normal conditions – lacking reference to the alternative – there was no evidence of a normality bias. Participants exposed to the abnormal conditions did not sentence the offender more harshly than those reading the normal scenarios. Although Study 2 did not incorporate a direct measure of counterfactual content using sentence completion, the judgments in response to the scenarios can be seen as indirect estimates of content.

The main effect of normality, particularly in cases of high alternative availability, stands in contrast to the reduced influence of normality when alternatives were provided in Study 1 (NA and AA conditions). In the earlier study provision of alternatives for

normal behavior enhanced affect and raised judgments to the level seen for abnormal behavior. Yet in Study 2 the traditional normality effect remained when alternatives were provided, and was only eliminated when alternatives were removed. In fact, as Figure 3 indicated, scenarios incorporating normal behavior and available alternatives for the victim resulted in substantially decreased offender punishment in contrast to the remaining three groups. A number of possibilities exist for the divergence in results, which continue to support the notion of an influence of availability, simply in a different direction. Of particular importance, of course, is the fact that the scenarios and measures used in Study 2 were more detailed and more realistic, particularly in the attempts to more deeply incorporate participants in the justice system methodology. It was one of my goals to examine the use of more realistic settings and measures in the realm of counterfactual scenario studies, and it could be that doing so can upset some of the results taken for granted by researchers. Although the effects of normality replicated under more realistic conditions, the effects of availability diverged from earlier findings using less realistic methods (i.e., Study 1). It is possible that providing more detailed scenarios, and requiring more precise, realistic, responses to dependent measures, in fact reduced the strength of association between availability and affect/judgment. The effect sizes of the measures in Study 2 were quite low, leading to concern that my efforts at realism may have inadvertently diluted the effects I was attempting to measure.

A further possibility for the diverging results is the less constructive but always possible aspect of error. The possibility exists due in part to the fact that attributions of responsibility were not influenced by victim normality as were sentences, and in fact no strong correlations between offender responsibility and sentences existed (largest r[207]

= .14). If participants were truly sentencing offenders more harshly when the victim was in exceptional circumstances one would think that this judgment would be reflected in the attributions of offender responsibility, particularly when they were measured prior to sentencing judgments (when the counterfactual thoughts were still "fresh" so to speak).

In summary, the results of Study 2 were not as supportive of a direct effect of availability as were those of Study 1. Although it would appear that alternative availability does factor into the findings on some level, it is certainly not in any way that would eliminate the influence of normality. Several reasons for the null effects were suggested, some of which may explain the various null effects of the normality manipulation as well (e.g., responsibility). However, there remained dimensions of availability yet to be manipulated, and as a result more in-depth analysis of the normality-availability connection was deemed necessary.

CHAPTER 4

Study 3

The results of Study 2 seemed to show that alternative availability carried some influence upon judgments based on normality, in that responses due to normality manipulations varied across different levels of availability. Although the familiar main effect of normality witnessed in previous research remained significant, availability carried some additional influence. Similarly, availability seemed to influence the normality manipulation in Study 1, although in a different direction to the findings of Study 2. Ultimately, however, alternative availability appeared to be a concept worthy of more precise independent investigation. I decided to perform an experiment similar to, but the inverse of Study 2, in which overall *normality* would be manipulated while the explicitness of alternatives for victim and offender would be manipulated independently (as was normality in Study 2). In doing so I could use the same scenarios from Study 2 and investigate why the hypothesized effect of availability failed to emerge earlier by examining the concept at a more tightly manipulated level by regarding both involved parties independently.

Given the sometimes contradictory results of Studies 1 and 2, it was not too pertinent to formulate many specific predictions, although the results of Study 1 seemed to indicate that greater alternative availability for the victim's actions would be expected to lead to more severe punishments. Whether this effect would carry over to the offender was one of the goals of Study 3, as well as to determine in what way the availability of each party's behavioral alternatives would interact and influence subsequent judgments.

Turley et al. (1995) included a manipulation of offender normality, and concluded that normal circumstances for the offender led to more severe punishment. Given that the normal circumstances were described in low availability terms, one might expect then that low offender alternative availability may lead to more severe punishment. However, Turley et al.'s conclusions were driven by the hypothesis that normal (unavailable) circumstances for the offender somehow conveyed greater intent, leading to more severe punishments. The scenarios I devised all conveyed an equally high level of intent, which could neutralize the effect Turley et al. discovered, and perhaps lead to more severe punishment in cases of higher availability, similar to the effect witnessed in Study 1 in the case of victim availability. Still, the potential for alternating directions of effects depending on target availability increased the potential for significant interactions among the results of Study 3. As a result my expectations for Study 3 were rather open-ended, having little outside evidence to guide my predictions, and contradictory evidence from earlier experiments. At the very least, I expected alternative availability to influence severity of punishment, with conditions incorporating high availability for both victim and offender resulting in some of the strongest judgments. At the same time, I was curious as to whether a manipulation of general normality would have any effect, considering that only victim normality influenced judgments in Study 2.

Method

Participants

The participants were 208 undergraduate students at the University of Victoria who participated for partial course credit. Participants were recruited through instructions provided in introductory psychology courses, and signed up for experiments through an

online internet scheduling system. Participants ranged in age from 17 to 36 years (M = 19.36, SD = 2.38). There were 50 males and 158 females.

Materials & Procedure

The same materials used in Study 2 – a two-page questionnaire beginning with a two-paragraph scenario – were used in Study 3. Participants were again presented with one version of eight scenarios, but in this case normality was the macro-level factor, with half the scenarios describing abnormal behavior by both parties, and half describing normal behavior.

Variables and Specific Predictions

There were three main independent variables in this study: victim alternative availability, offender alternative availability, and scenario normality. Alternative availability was manipulated by independent mention of information concerning the victim' and offender's prior considerations. Normality was manipulated by the behavior of both the parties involved (victim and offender simultaneously), either both normal, or both abnormal. The resulting design was a 2 (Victim Counterfactuals: Unavailable vs. Available) x 2 (Offender Counterfactuals: Unavailable vs. Available) x 2 (Scenario Normality: Normal vs. Abnormal) between-subjects factorial.

The main dependent variables in this study were the attributions of responsibility for the offender (for the injuries to the victim, and for the robbery), and the sentences for robbery and bodily harm. I predicted that attributions of responsibility and/or sentencing judgments would be highest among the participants reading available-available scenarios; no specific predictions pertaining to availability were made for the remaining groups. Although there was an effect of normality in Study 2 it was restricted to victim normality;

as a result I formulated no specific predictions for the overall scenario-level normality manipulated in Study 3.

Results and Discussion

Measures of responsibility and punishment were analyzed using three-way univariate ANOVAs with victim availability, offender availability, and normality as the between-subjects factors. There were no significant main effects or interactions among the availability manipulations in responsibility judgments (smallest $p > .15$). Although marginally significant effects of normality emerged for victim responsibility for injuries ($F[1, 200] = 2.97$, $MS_E = 1.98$, $p = .09$, partial $\eta^2 = .02$) and offender responsibility for robbery ($F[1, 200] = 3.46$, $MS_E = .452$, $p = .06$, partial $\eta^2 = .02$) they did not correspond with any normality effects from Study 2, and were not meaningful. In addition, there was no effect of normality for the most important responsibility measure (offender for injuries), $p = .62$.

Although sentences for robbery and bodily harm were once again significantly positively correlated, $r(208) = .39$, $p < .001$, there was no evidence of any meaningful correlations with sentencing goals. As a result sentences were analyzed without the use of sentencing goals as covariates. Nor did sentences correlate to any large extent with the responsibility measures (nor did they in Study 2), rs $< .15$. Analysis of variance for the robbery sentence did not indicate any main effects of either victim or offender availability, nor of normality (smallest $p > .36$), however, a significant interaction between victim and offender availability did emerge, $F(1, 200) = 5.42$, $MS_E = 42.56$, $p = .02$, partial $\eta^2 = .03$. In fact, precisely the same results came about when analyzing sentences for bodily harm: no significant main effects (smallest $p > .76$), yet a strong

interaction between availability factors, $F(1, 200) = 11.83$, $MS_E = 11.89$, $p < .01$, partial $\eta^2 = .06$. Total sentences are shown in Figure 4, illustrating the crossover interactions evident for both robbery and bodily harm sentences. In both cases, the most severe sentences were provoked when explicit mention of alternatives were made for both parties – or made for neither party. Simple effects of victim availability following a 2 (Victim Availability) x 2 (Offender Availability) ANOVA confirmed the significance of the interaction clearly illustrated by Figure 4. When offender counterfactuals were not available, available victim counterfactuals reduced total sentences by over 3.5 years, $F(1, 102) = 4.87$, $MS_E = 69.73$, $p = .03$, partial $\eta^2 = .02$. Conversely, when offender counterfactuals were available, unavailable victim counterfactuals reduced sentences by almost 4 years, $F(1, 102) = 5.63$, $p = .02$, partial $\eta^2 = .03$.

I predicted that the available-available scenarios would prompt the harshest sentences, which was born out; however, similarly harsh sentences were assigned to offenders in the unavailable-unavailable conditions. When the degree of alternative availability for both parties was divergent (in either direction), sentence severity decreased, regardless of normality – the effect persisted in both normal and abnormal scenarios. One possible, but speculative, explanation of how the interaction came about is that participants in the mixed conditions (available-unavailable, or vice versa) were unsure as to what counterfactuals would be appropriate for the party for whom alternatives were not made available. In those conditions, when the counterfactuals, in the form of alternative considerations, were available for one party, participants may have been reluctant to make assumptions concerning the other party's considerations.

Figure 4.

Mean total sentence (+ 95% CI) across victim and offender alternative availability groups (all *n*s = 52).

This slight uncertainty may have unconsciously reduced sentence severity in those two groups. The other two groups, for which counterfactuals were equally available, provoked less uncertainty and thus more severe sentences. The unavailable-unavailable scenario did not suggest any alternative considerations for either party, leaving both victim and offender equal in that respect, and the available-available scenario informed readers of both party's considerations, once again leaving both victim and offender on a level playing field. Such a hypothesis is fraught with conjecture, but worthy of consideration when attempting to explain such a surprising interaction.

However difficult to explain, the availability interaction, and lack of any normality effect, complemented the results of Study 2. Recall that Study 2 displayed little evidence of any general availability effect, while victim normality clearly influenced sentences. The sentences among the availability conditions in Study 3 were very similar for the unavailable-unavailable, and available-available conditions, precisely the manipulation utilized in Study 2: either both victim and offender were unavailable, or both were available, but availability was not independently manipulated between targets. Thus, the earlier null effect of availability corresponded with the fact that effects emerge only when victim and offender alternative availability was manipulated independently, and not at an experiment-wise level. An effect of availability was only evident in the interaction between victim and offender, which could not be examined in Study 2. In addition, the lack of any experiment-wise normality effect in Study 3 corresponded with the fact that victim normality alone influenced sentences in Study 2, without any corresponding influence of offender normality.

The measure of confidence in sentences, did not correlate significantly with either sentence, rs < .11. Confidence was analyzed using a three-way univariate ANOVA, as were responsibility measures and sentences. Although a significant effect or normality was found, $F(1, 200) = 4.61$, $MS_E = 4.00$, $p = .03$, partial $\eta^2 = .02$, no further effects of either victim or offender availability, or any interactions were significant; all Fs < 1.08. Participants were slightly more confident in their sentences after having read abnormal scenarios ($M = 6.71$, $SD = 2.00$) than after reading normal scenarios ($M = 6.12$, $SD = 1.98$). However, confidence was intended primarily as a descriptive statistic and potential covariate for sentences, and no predictions regarding main effects were made, thus the influence of normality was not explored further.

Analysis of importance of intentions was performed via two-way univariate ANOVAs, with victim and offender availability as the between-subjects factors. There were no main effects or interactions of availability for either measure (smallest $p > .25$). One-way ANOVAs upon importance of actions, with normality as the between-subjects factor, were also similarly non-significant (smallest $p > .20$). These results were not entirely surprising given the similarly weak findings in the same measures in Study 2. The most pertinent and interesting findings were again among the sentencing results.

As previously mentioned, few empirical studies in the counterfactual realm have manipulated information pertaining to the victim and offender simultaneously, with Turley et al. (1995) being perhaps the sole exception. Considering that virtually any legal case, be it civil or criminal, includes at least two parties (i.e., victim and offender), and given the interaction evident in Study 3, that could not be witnessed in Study 2, independent manipulation of both parties' details was prudent.

CHAPTER 5

General Discussion

I began this line of research with two objectives. Firstly, I desired to increase the degree of methodological rigor in counterfactual scenario studies in order to examine the effect of antecedent normality more conclusively, and ascertain how the separate influence of alternative availability factored into the equation. In doing so I hoped to determine what implications existed for counterfactual theory if there was evidence for a newly influential factor beyond normality, such as alternative availability. My secondary objective was to elicit the effects of normality and alternative availability among legal judgments by using more accurate procedures that accommodated realistic legal terminology and requirements.

In preparing to meet my first objective I was able to replicate a series of scenarios concerning the effects of counterfactuals upon affect and judgment, particularly in the legal domain. I also modified the previously articulated methodologies to control for a hypothesized confound of alternative availability. I suggested that many of the traditional findings in scenario studies stemming from manipulations of normality alone have been confounded with alternative availability. I hypothesized a temperance of the influence of normality manipulations by controlling for alternative availability. Study 1 replicated several previous findings and trends, and illustrated a reduction in the effects of normality when controlling for alternative availability. The results suggested an additive effect of availability and normality upon the content-affect/judgment relationship. These findings were in line with my expectations and helped to fulfill my first objective. Study 2 again hinted at an interaction between availability and normality, given that effects of normality

emerged only during exposure to highly available counterfactuals. Although the results of Study 2 did not agree with the direction of some findings from Study 1, the net results suggested that availability and normality can be teased apart in the hopes of improving the methodologies of scenario studies. Lastly, Study 3 indicated an effect of alternative availability outside of traditional normality manipulations. A unique pattern of interactions provided evidence for the complicated nature of counterfactual research involving multiple parties, and grounds for more research upon multi-party counterfactual research in the legal domain. Despite being unable to conclusively identify availability as a reliable moderator or confound of normality, my results suggested that availability may be a factor of further interest in counterfactual scenario research. There are a number of directions this body of research can take to improve upon and more clearly articulate the validity of my findings, as well as more accurately address my specific predictions, but the three studies contained herein were successful in furthering my primary objective, as well as fostering many new ambitions.

My research in Studies 2 and 3 was critical to meeting my second objective, and illustrating that more realistic settings and methods can be utilized in scenario studies such as these, particularly given the oft-suggested practical applications and applied dimension. In using objective measures of punishment, as well as more detailed instructions paralleling actual law, I demonstrated that the influence of normality and alternative availability can be measured in a realistic context. It could be suggested that some of the counterintuitive results and surprising interactions were a function of the more realistic, and pressing, conditions in which participants were asked to work. If this is indeed the case, then my results suggest that a number of previous findings regarding

legal counterfactuals elicited by more simplistic scenario studies require refinement. Replications in a more realistic context would enable researchers to determine if some of the clear effects previously witnessed show different patterns that require additional interpretation. Although my findings indicate that the effects of counterfactuals can be elicited using more realistic procedures, they do not provide for a direct comparison between conventional and realistic procedures. Controlled manipulations of realism (through instructions and measures) using scenario studies that elicit judgments such as compensation and sentences (not necessarily involving counterfactuals) could provide evidence of particular changes in judgments as a function of procedure. In any case, further realism would allow researchers to more aptly suggest real-world applications of their findings.

Theoretical Implications

What is immediately clear is that there are elements of Norm Theory and counterfactual supposition that remain in agreement with my findings. Primarily, the notion that greater availability of alternatives prompts greater affect remains, and is perhaps even bolstered by my results. Study 1 displayed that enhanced availability corresponded with judgment and affect – even normal antecedents could prompt more severe punishment and emotional amplification. Furthermore, the proposition that counterfactual content is typically based upon mutability of antecedents corresponds with my findings, seeing as mutability can be determined by availability of alternatives. What my results challenge is the notion that exceptions are mutated more frequently than routines, and that events are typically undone in the direction of routine, "normal" behavior. As I have shown, routine behavior can be mutated as frequently as exceptional

actions, and that the direction of undoing is at the very least influenced in part by the availability of alternatives, in addition to normality.

Kahneman and Miller (1986) declared that "differences in the mutability of attributes will affect the spontaneous generation of norm elements," (p. 143). They followed that statement with the assertion that exception and routine is a major determinant of mutability. What has gone unnoticed is the fact that exception and routine does not necessarily correspond with high and low mutability respectively – exceptions can be more *or* less mutable than routines, and vice versa. In fact, if one follows Kahneman and Miller's assertion that "an abnormal event is one that has highly available alternatives," (p. 137) then a routine event can be just as "abnormal" as an exceptional event; thus do the vagaries of counterfactual language emerge. Counterfactual researchers would be wise to steer clear of correlating abnormality with high availability, in order to avoid inadvertently insisting that abnormality leads to affect (emotional amplification) when in fact it is availability that leads to affect. It is only due to the fact that abnormality has been most frequently witnessed as provoking highly available alternatives that the emotional amplification hypothesis is frequently stated in language linking abnormality and affect. As it would seem, the variables of normality and availability are not interchangeable, as either one can be manipulated independently of the other.

Limitations

The occasionally contradictory nature of the results of my studies belies confirmation of the precise direction of the effects of alternative availability. While it is apparent that availability can influence affect and judgment beyond the previously articulated effects of normality, there are several limitations to my studies. First and

foremost there is the matter of sample size and subsequent statistical power in some studies, particularly Study 1 for which only 67 participants were available. Despite several strong findings, there remains the possibility that a replication of these results drawing from a larger pool of participants could display alternative results, potentially discouraging, or encouraging. In addition, the nature of the task used in Study 1, in which participants read six distinct scenarios, differs a great deal from the previous scenario research based on exposure to one scenario only. Environmental limitations in terms of population size necessitated this quasi-within-subjects design, but it may have allowed participants to become familiar with counterfactual thinking and undoing, more so than in studies based on only one scenario. Although the consequences of this methodology are likely to have been a reduction in significant findings, and not artificial inflation of non-significant results, it necessitates mention. Lastly, any replication and modification of previous scenarios such as was performed in Study 1 could benefit from a greater degree of detail in published scenarios. The vast majority of scenario studies have not provided the normal scenarios in text. Had previous researchers been more forthcoming I would have been able to modify the abnormal scenarios to more closely approximate normal-unavailable scenarios and thus devise a fourth group for comparison and thus examine the moderating influence of availability upon normality. It was much easier, and more methodologically sound, to create normal scenarios based on the available abnormal scenarios, than it would be to create abnormal scenarios containing the same degree of availability as unpublished normal scenarios. Devising my own scenarios for Studies 2 and 3 managed to overcome this limitation, but it would be a useful methodology for future researchers, particularly those having access to a larger pool of participants

required for the type of full factorial design pertinent under the conditions (in which the within-subjects design could be eliminated as well).

In Studies 2 and 3 counterfactual content was not measured directly as it was in Study 1, which did not allow for assertions of normality-availability interactions directly upon content. Although it seems reasonable to assume that content effects would mirror those witnessed in Study 1, only inferences about content were permitted, based on the judgments said to be influenced by content. Any further research based on an availability factor should include direct measures of counterfactual content to necessitate fewer inferences. Replications and extensions of this line of research would be wise to take these limitations into consideration to properly build upon the present results.

Future Directions and Practical Implications

Should the witnessed influence of alternative availability reliably replicate among additional scenarios, and under more favourable conditions, my ideas could be expanded to further areas of counterfactual research. In fact, normality, manipulated by the familiarity of each party's circumstances in my scenarios, has further components such as action-inaction, and controllability. Kahneman and Miller (1986) suggested that actions are abnormal, as are controllable instances (there is very little we can actually control); the result being that actions, and controllable antecedents are said to be more likely to be mutated, as are unfamiliar circumstances. However, alternative availability can play a poignant role in any depictions of the so-called action-inaction effect. Consider for a moment how actions and inactions are typically described: an action such as "He opened the door," versus an inaction such as "He did not open the door." The inaction contains reference to the action (what he did not do), whilst the action does not follow suit.

Consider for example the scenario described by Kahneman and Miller (1986) involving two stockholders, one of whom retained a losing share (inaction), and another who sold a winning share (action). The scenario described the in-actor as having considered switching stocks and then deciding against it, while the actor is merely described as switching stocks – not considering retaining stocks and then switching.

One could question how people would react to a phrase such as "He didn't not open the door," an action described as an inaction. While such a double negative seems humorous, there is a valid point behind the question – does the action-inaction effect depend on the description, or on the actual behavior portrayed? The question may be a moot point in any case, as a number of empirical critiques have been made of the action-inaction effect, illustrating the fact that under tighter methodological control the effect is greatly reduced. N'gbala and Branscombe (1994) pointed out that the research has relied too heavily on within-subject manipulations that may produce an artificially heightened effect due to contrasts. In addition, actions in much of the research have been explicitly described as abnormal; when N'gbala and Branscombe removed this confound the action-inaction effect was no longer apparent when regarding counterfactual generation. In real-world research, Davis et al. (1995) did not witness any effect of antecedent actions/inactions upon counterfactual thought generation when regarding bereaved individuals; nor did Feldman, Miyamoto, and Loftus (1999) when regarding regret among student participants.

Although the suggestion that actions are mutated with more ease than inactions may be too simplistic, there is certainly room to investigate the moderating effect of alternative availability. Moderation of the effect would not be surprising, as Roese (1993)

found a moderator in outcome valence: actions were mutated after success more so than after failure (when inaction was mutated with greater frequency). I, for one, would be curious as to what type of action-inaction effect emerges when actions are described with the same degree of alternative availability as inactions (or simply described as inactions, as I suggested above). I would suspect a certain degree of moderation of the effect, as Roese found with outcome valence, or even as Gilovich and Medvec (1994) found for temporal distance (a focus on actions over the short-term).

Two of the practical realms to which counterfactual research has contributed are in the justice system, and business and marketing. A good deal of modern counterfactual research was prompted by initial studies in legal dimensions such as the car accident scenario in Kahneman and Tversky's early work illustrating the simulation heuristic (Kahneman & Tversky, 1982). Psychologists such as Branscombe et al. (1996) have pointed out the obvious relevance of counterfactual research in the legal system. Indeed, legal scholars have taken notice and embarked upon several lines of study aimed at the legal dimension of counterfactual research rather than the psychological aspects (Feigensen, 2000; Prentice & Koehler, 2003; Reiss, 2001; Strassfield, 1992; Wiener et al., 1994). In a study published in the *Cornell Law Review*, Prentice and Koehler asserted a normality bias in legal decision making based on Norm Theory and case studies, that "creates an incentive for plaintiffs to frame defendants' actions as unusual or nontraditional," (p. 596). The authors performed two scenario studies involving stockbroker negligence and medical malpractice. Prentice and Koehler found a normality bias in that unconventional stock portfolios and medical treatments provoked much more frequent and higher (monetary) judgments in favour of the plaintiff. Doctors and

stockbrokers who recommended an unconventional course of action were thus punished more severely than those whose clients followed a conventional course of action as per their recommendation. Prentice and Koehler managed to (unintentionally) avoid confounding normality with alternative availability through their use of terminology: "conventional" and "unconventional" avoided reference to an alternative condition, not so with a phrase such as "She has walked the same route home each day for the past two years. On this occasion, she...took a different route through an unfamiliar section of town," (Turley et al., 1995, p. 288).

Prentice and Koehler (2003) conveyed an appreciation for the applicability of counterfactual research: "Attorneys in negligence and other cases could exploit our results. Plaintiff's attorneys and prosecutors might try to paint a defendant's actions as abnormal. Conversely, defendant's attorneys might try to characterize their clients' acts as normal for the existing circumstances," (p. 635). In fact, with knowledge of alternative availability as a moderator of normality, attorneys could endeavor to undermine their opponents' use of counterfactuals. For example, a defence attorney wishing to minimize his or her client's punishment despite the presence of abnormal circumstances could avoid any mention of the more routine alternative. On the other hand, a prosecutor wishing to increase the punishment for an offender could be sure to raise the issue of alternatives, even exceptional ones, to actions were they part of a normal routine.

The rule of counterfactual thinking in judgments of criminal behavior was investigated by Reiss (2001), who examined homicide inquiries in British courts. After any murder involving a psychiatric patient in England, a mandatory inquiry is undertaken, involving significant resources and time. The efficacy of such investigations

remains unknown and Reiss highlighted various critical authors. At the root of such inquiries is counterfactual thinking – how could the murder have been prevented – which, as Reiss pointed out, is susceptible to a number of "mutability rules...or counterfactual constraints," (p. 171). In fact, one such rule Reiss emphasized in his review was that of exception versus routine, supported by evidence from Kahneman and Tversky (1982), as well as Kahneman and Miller (1986), and Wells et al. (1987). As is the custom, Reiss pointed out that "Exceptional events may be more mutable than common ones because more alternatives are available to the former," (p. 171). As I have established, such a conclusion can be undermined by routine events to which an equivalent volume of alternatives are available, as the sentence completion statements in Study 1 clearly illustrated. The view that exceptions are more mutable assumes that the degree of alternative availability is determined solely by exceptionality, and uninfluenced by story construction. Reiss is correct, however, in concluding that counterfactuals, and the means by which they are generated (e.g., influenced by mutability) can point a criminal inquiry in any multitude of directions, some beneficial and some harmful. In fact, counterfactuals could "leave an inquiry subject to biases and errors of judgment that could manifest themselves in incorrect perceptions and the misallocation of blame," (p. 178). As a result, proper knowledge of how counterfactuals are generated, such as awareness of mutability rules, is imperative in determining how to interpret and put into practice the findings of a criminal inquiry.

In the realm of marketing, counterfactuals have been relied upon as a key sales and promotional technique (McGill, 2000), from encouraging consumers to take advantage of "price guarantees" (McConnell et al., 2000), to selling insurance (Hetts et

al., 2000), and even as a means of encouraging lottery sales that benefit government bodies (Landman & Petty, 2000). One could say that counterfactual research has been "exploited" by marketers in a similar fashion as by attorneys and others, but although it may seem ironic to say so, as researchers we have a duty to ensure our results are legitimate, despite (or even for the benefit of) those who may exploit them. In the case of counterfactuals, the search for confounds in the results published thus far may benefit both those who would use the findings for good, and those with more nefarious goals. If counterfactual research is relied upon by participants in the justice system and in the business world it should be reliable and valid. As my findings suggest, certain conclusions made in the past concerning the effects of normality may have led users astray when employed in real-world settings. Any evidence showing a moderator or mediator of the normality effect will serve both basic and applied research, and the use thereof.

In order to more fully build upon my results and contribute to the body of knowledge in the counterfactual literature, there are obviously a number of directions in which this research stream can be pursued. Beyond the important replications and increased sample sizes suggested earlier, I feel that tests of more scenarios are in order, including different types of offences and outcomes, if the legal aspect of the research is maintained, or even branching out into other types of scenarios involving more positive outcomes. For instance, would effects of availability emerge in a study of how normality influences responses to lottery wins or job promotions and other equally cheerful outcomes? Is an individual who behaves abnormally prior to winning a lottery seen as luckier, and is this a function of alternative availability in the description of the

antecedent circumstances? Remaining within the domain of legal counterfactuals would require the use of a greater spread of negative outcomes involving crimes more and less serious than the (recoverable) injury used in the scenarios I devised. The scenarios used in Study 1, based on robbery, rape, and more permanent injury, are good starting points, and more controlled manipulations on the scale of Studies 2 and 3 would be useful. For example, abnormal unavailable conditions using those scenarios would likely provide useful information for comparison to the three types of scenarios used in Study 1. In addition, providing scenarios individually instead of as part of larger package of multiple scenarios would be wise, should the necessary participants be available, for doing so can avoid carryover effects, and avoid having participants become more adept at thinking counterfactually. These suggestions and directions are only some of many no doubt, but they illustrate that despite what may at first seem like a very comprehensive and conclusive body of work, counterfactual research can still be extended into new and intriguing dimensions.

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Appendix A

Consent Form

You are being invited to participate in a study conducted by Russell Ball. Russell Ball is a graduate student in the Department of Psychology at the University of Victoria, you may contact him by emailing russball@uvic.ca. As a graduate student, Russell is required to conduct research as part of the requirements for a Masters degree in Psychology. It is being conducted under the supervision of Dr. David Mandel. You may contact Dr. Mandel at dmandel@uvic.ca.

The purpose of this research is to examine the cognitive processes underlying human decision making and to better understand how people weight and combine information in order to decide on a course of action in various circumstances. Research of this type is important because decision making is central to reasoning in many everyday-life contexts. Most of our decisions involve interpreting the evidence, weighing the various options, and deciding on an appropriate course of action; this research investigates these critical decision making processes.

You are being asked to participate in this study because you have signed up to be contacted as a potential research participant in accordance with the terms outlined in the PSYC100 research pool advertisement.

If you agree to voluntarily participate in this research, your participation will include completion of a questionnaire that involves reading hypothetical situations, and making decisions about what course of action to take in order to resolve the situation. You will be given information about the circumstances involved, and asked to make several decisions. Following the decision making tasks, you will be asked to complete some additional questions about how you think you arrived at the decisions you were asked to make. The study should not take more than 30 minutes to complete. There are no known or anticipated risks to you by participating in this research.

The potential benefits of your participation in this research include gaining insight into your own judgement and decision making processes via direct experience with the decision making tasks and via the subsequent debriefing procedure designed to inform you about the specific objectives of this experiment in which you participated. It is expected that the results of this research will contribute to our understanding of the psychological processes underlying decision making.

In appreciation of the time and effort you devote to this research by participating and as a way to compensate you for any inconvenience related to your participation, you will be given course credit points for PSYC100. You will receive 1 bonus point for your participation. It is important for you to know that it is unethical to provide undue compensation to research participants and, if you agree to be a participant in this study, this form of compensation must not be coercive.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation by indicating your desire to withdraw to the experimenter. If you do withdraw from the study your data will be destroyed. In terms of protecting your anonymity, you are requested NOT to put your name, student ID, or any other information that could clearly identify you on the questionnaire provided. Additionally, this consent form, which requires your name and signature for participation to proceed, will be kept separate from your questionnaire and will not be matched at any point for purposes of identifying you.

Your confidentiality and the confidentiality of the data will be protected by being stored securely within Dr. Mandel's laboratory, where it will be used solely for research purposes and will be handled only by qualified research staff. After a sufficient period following publication of the research (typically 5 years), the raw data that you provided will be destroyed. Questionnaires will be shredded, although the data files may be retained on computer for a longer period to permit the researchers to conduct follow-up statistical analyses should additional research questions arise.

In addition to being able to contact the researcher (and, if applicable, the supervisor), you may verify the ethical approval of this study, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4362).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

_____	_____	_____
Name of Participant	*Signature*	*Date*

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Appendix B

Study 1 Page 1

In this questionnaire study you will be presented with several case studies and asked to provide responses concerning your thoughts and opinions relating to the situations and individuals described. Please consider each case individually, and spend some time thinking about the details before you answer the questions. There are several questions for each case, and although some may be similar across cases, please do not use your responses from one case to determine your responses for another. Answer the questions in the order they are given, and please do not go back to cases or questions you have already answered.

When you have finished reading and responding to all the questions please indicate to the experimenter that you are finished; thank you very much for your participation.

Please rank order the following purposes of sentencing as to how each one would factor into your sentencing decisions if you were a judge. Using the numbers 1-6 assign one number for each of the six purposes below in the order of importance the purpose was to your sentencing decisions overall. For example, 1 would signify the most important purpose of your sentences, and 6 would signify the least important purpose of your sentences. Please use each rank number only once (e.g., you can only assign the number 1 to one of the purposes, and so on with the remaining rank numbers).

Denounce unlawful conduct	_____	Deter the offender and others	_____
Separate the offender from society	_____	Rehabilitate the offender	_____
Promote a sense of responsibility	_____	Provide reparations to victims/society	_____

Your gender (circle one): Male Female Your age: _____

Your academic major (or intended major): _____

Appendix C

Study 1 Debriefing Form

Thank you for participating in this research. This page provides you with information about the purposes of the experiment, and information about how to contact the experimenters, as well as background readings about the particular area of research.

The study consisted of several victimization scenarios designed to allow for an assessment of the decision making strategies that people use when making compensation and punishment decisions that may rely on counterfactuals. The term counterfactual refers to thoughts concerning alternative outcomes of a situation (e.g., "If only..."). In this study the counterfactuals were in regards to the choices the victims made about whether to proceed in a normal or abnormal fashion prior to their victimization. Some participants were given information indicating that the victim proceeded normally, for example taking a normal route through town. In other cases the victim took an abnormal course of action prior to being victimized (e.g., a new route, or visiting an unfamiliar establishment). Most importantly, some of the "normal" scenarios included details about the potential abnormal course of action the victim could have taken, while others did not, and described solely the normal circumstances.

It was hypothesized that participants' counterfactual thoughts regarding the circumstances prior to the victimization would in part determine judgments of sympathy, blame, and responsibility, as well as compensation and punishment. Participants who read about a victim in unusual circumstances were expected to provide more compensation to the victim and greater punishment to the offender than those reading about a victim in normal circumstances. This effect was hypothesized to be mitigated by providing information about the abnormal alternative to participants reading about victims in normal circumstances, an aspect neglected in previous research.

The overall goal of this research is to understand how decisions are made. The data will be compared and contrasted in order to determine how the content of the information presented affected the decisions of participants in this study. The results of this research will, in all likelihood, eventually be published in scientific journals and will be shared with other researchers at scientific conferences. Ultimately, it is hoped that the present research can add to our knowledge of how complex decisions are made.

If you would like more information about this research, please contact graduate student Russell Ball at russball@uvic.ca, and Dr. David Mandel at dmandel@uvic.ca. Thank you again for your participation and interest. For more details we recommend that you read the following journal articles on this subject and the other papers cited therein.

Suggested Readings

Kahneman, D., & Miller, D. T. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review, 93*, 136-153.

Macrae, C. N., Milne, A. B., & Griffiths, R. J. (1993). Counterfactual thinking and the perception of criminal behaviour. *British Journal of Psychology, 84,* 221-226.

Appendix D

Studies 2 & 3 Page 2

Now, imagine that you have found the defendant guilty of one count of robbery (firearm) and one count of causing bodily harm with intent (firearm). As the criminal court judge, you must now make a sentencing decision for each offence. Both offences have a minimum sentence of 4 years imprisonment. Robbery has a maximum sentence of life imprisonment and causing bodily harm has a maximum sentence of 14 years imprisonment. The sentences for both offences must be served consecutively, which means a total sentence of at least 8 years must be given.

Considering both the facts of the case and the sentencing guidelines provided, your next task is to provide the offender with a sentence for each of the two charges in the order in which they appear. Feel free to refer back to the case information as you please.

4. How long should the offender be imprisoned for the robbery offence?

   _____ years or, if life imprisonment, check here [ ]

5. How long should the offender be imprisoned for the offence of causing bodily harm with intent?

   _____ years

6. How confident are you that your sentencing decisions were appropriate? (circle one)

0	1	2	3	4	5	6	7	8	9	10
Not at all confident					Moderately confident				Completely confident	

7. Please assign a number between 0 and 10 to represent how important each of the following factors was to your sentencing decisions. For example, 0 would indicate a factor was not important at all, and 10 would indicate a factor was extremely important.

Intentions of the victim	_____	Intentions of the offender	_____
Actions of the victim	_____	Actions of the offender	_____

8. Please rank order the following purposes of sentencing as to how each one factored into your sentencing decisions overall. Using the numbers 1-6 assign one number for each of the six purposes below in the order of importance the purpose was to your sentencing decisions overall. For example, 1 would signify the most important purpose of your sentences, and 6 would signify the least important purpose of your sentences. Please use each rank number only once.

Denounce unlawful conduct	_____	Deter the offender and others	_____
Separate the offender from society	_____	Rehabilitate the offender	_____
Promote a sense of responsibility	_____	Provide reparations to victims/society	_____

Your gender (circle one): Male Female Your age: _____

Your academic major (or intended major): _____

Thank you for your participation. Please notify the experimenter that you have completed the task.

Appendix E

Studies 2 & 3 Debriefing Form

Thank you for participating in this research. This page provides you with information about the purposes of the experiment, and information about how to contact the experimenters, as well as background readings about the particular area of research.

The study consisted of questions designed to assess the decision making strategies that people use when making sentencing decisions that may rely on counterfactuals. The term counterfactual refers to thoughts concerning alternative outcomes of a situation (e.g. "If only..."). In this study the counterfactuals were in regards to the choices both the victim and offender made about what gas station to visit or rob, respectively. Some participants were given information indicating that the victim was visiting the gas station he normally patronized, and others that he was visiting an unfamiliar gas station. Similarly, the offender was sometimes described as robbing a gas station in his hometown, or one in another town he had never before visited. In some cases the victim and offender considered alternative locations, and these considerations were hypothesized to give rise to counterfactual thoughts among participants, which may influence the sentences given to the offender.

The overall goal of this research is to understand how decisions are made. The data will be compared and contrasted in order to determine how the content of the information presented affected the decisions of participants in this study. The results of this research will, in all likelihood, eventually be published in scientific journals and will be shared with other researchers at scientific conferences. Ultimately, it is hoped that the present research can add to our knowledge of how complex decisions are made.

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Macrae, C. N., Milne, A. B., & Griffiths, R. J. (1993). Counterfactual thinking and the perception of criminal behaviour. *British Journal of Psychology, 84,* 221-226.