

**The Effects of Narcissism and Perspective-taking
on Managers' Escalation of Commitment**

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Companies often have the opportunity to invest in capital assets. Unfortunately, the benefits of such investments are not always realized and managers are challenged with deciding whether they should withdraw their support for a failing endeavour. Termed “escalation of commitment”, this phenomenon describes situations in which managers continue to fund a failing course of action despite having an opportunity to withdraw (Staw 1976). While management accounting research has largely focused on designing controls to influence the behavior of employees, more recently, researchers have begun exploring how managers’ personalities impacts their decision-making and their response to management control systems (for a brief review, see Young et al. 2016). In this dissertation, I examine the effect of an individual difference, specifically narcissism, on managers’ escalation of commitment. I also investigate the effect of prompting individuals to consider the perspective of an outside manager to reduce individuals’ support for an underperforming project and whether this prompt interacts with managers’ narcissism. Based on prior research, I predict that narcissistic managers are less likely to reinvest in an underperforming project when they can withdraw and invest in an alternative project that offers the potential for higher returns. I also predict that managers who view negative investment feedback from the perspective of an outside manager will be less likely to reinvest. Based on my expectation that narcissistic managers exhibit reduced escalation tendencies, I predict that perspective-taking will be less effective in mitigating their commitment to an underperforming project relative to managers with low narcissism. Results of an experiment completed by 228 managers do not provide support for an effect of either narcissism or perspective-taking on managers’ support for an underperforming project. Interestingly, results indicate that perspective-taking increases the escalation tendencies of narcissistic managers while having no statistically significant effect on less narcissistic managers. Given these results, I propose a theory-based explanation for narcissistic managers’ response and suggest future research opportunities. Overall, this dissertation contributes to the growing literature examining how manager’s narcissism influences decision-making in organizations and is a first step in understanding how individual differences may influence the success of management control systems.

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Finally, I wish to thank my life-long friends, Jenny, Phylo, Minna, Betty, and Chunmei, whose companionship and support made my time in my PhD program an enjoyable one.

Dedication

I dedicate this dissertation to my husband, Jeff, my children, Adam and Noah, my parents, Susan and Paul, and my sister, Lynn. Without their continuous love and support, none of this would have been possible. I would also like to dedicate this dissertation to my brother, David, whose influence on my life has been indelible.

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Chapter 1: Introduction

Capital investment decisions involve the purchase of long-term assets that are expected to provide benefits for an extended period of time. Thus, decisions regarding the “effective and efficient use of scarce resources” (Sprinkle 2003, 287) are among the most important facing managers (Mowen et al. 2018). Since the costs and benefits of capital investments are spread over multiple periods, there is a high degree of uncertainty that a chosen investment will perform as expected and managers must periodically review their investments to assess whether or not continued support is warranted. A key function of management accounting is to provide managers with valuable financial information that they can use to guide their decision-making; however, research suggests that managers underutilize information regarding capital investments. For instance, managers continue to support underperforming projects despite receiving negative feedback about a current project’s future prospects (e.g., Ang and Cheng 2016) and having more profitable alternatives in which to invest (Kanodia et al. 1989). Termed “escalation of commitment”, this phenomenon describes situations in which individuals or groups continue to support a failing course of action rather than abandon it and “is considered to be one of the most robust and costly decision errors addressed in the organizational sciences” (Sleesman et al. 2012, 541).¹ Numerous prominent examples can be found in a variety of settings, such as British Columbia’s fast ferry scandal which cost the province over \$430 million.²

¹ Related to escalation of commitment is the sunk cost fallacy which describes situations in which individuals continue investing money or time in response to the magnitude of prior investments (e.g., Keil et al. 1995; McAfee et al. 2010).

² In the 1990’s, British Columbia’s provincial government commissioned the construction of three ferries to improve service to Vancouver Island. Despite warnings that the ferries could not be produced on-time and within budget, the government continued supporting the program. Eventually costs doubled from an estimated \$210 million to \$450 million and the ferries were delivered 3 years later than scheduled. Plagued by numerous mechanical issues, less than four years after the ferries were put into service they were sold at auction for approximately \$19 million (CBC News 2009).

Why managers engage in escalation has been the subject of numerous studies.³ Of the various explanations researchers have proposed, self-justification theory (SJT) is the most commonly examined and empirically supported (Steinkühler et al. 2014). According to self-justification theory, managers who receive negative feedback on a previously selected investment feel that their positive self-view is challenged and are motivated to justify the correctness of their initial investment. Consequently, managers continue to support underperforming investments rather than abandon them in favour of other more profitable alternatives. In accounting, research has largely focused upon designing and examining the impact of incentive systems and management controls on managers tasked with making project continuation decisions (e.g., Ang and Cheng 2016; Cheng et al. 2003; Harrell and Harrison 1994; Ghosh 1997), however these studies tend to overlook the impact of individual differences on manager's escalation tendencies.

One such difference proposed, but not yet examined, to influence managers' escalation is narcissism (Pinto and Patanakul 2015). As a relatively stable individual trait (Rosenthal and Pittinsky 2006), narcissism is defined as “a pattern of need for admiration and lack of empathy for others” (American Psychiatric Association 2013).⁴ While narcissism has been explored extensively in psychology, only recently has it gained attention in the accounting literature. With narcissism on the rise among the general population (Twenge and Campbell 2008; Twenge et al. 2008), firms must consider the impact of narcissism not only in the C-suite, but also at lower organizational levels. Firms experiencing a demographic shift are thus, challenged to understand

³ In this study, I use the terms ‘escalation of commitment’, and ‘escalation’ interchangeably.

⁴ In my thesis, I examine “normal narcissism”, rather than clinical levels of narcissistic personality disorder (NPD). Consistent with convention (e.g., Campbell, Goodie and Foster 2004), I use the terms “narcissists” and “non-narcissists” to capture individuals with higher or lower narcissism as measured using the narcissistic personality inventory (NPI; Raskin and Terry 1988).

the impact narcissists have on the design of effective of management control systems (Hales et al. 2016; Wang 2017; Young et al. 2016).

According to self-affirmational theory (SAT), individuals with an abundance of affirmational resources are better able to buffer against threats to their positive self-view (Steele 1999). When making capital reinvestment decisions, SAT suggests that narcissists' inflated self-views protect them from single instances of ego-threat, such as negative investment feedback, and they are therefore less motivated to engage in escalation.⁵ Furthermore, according to attribution bias, individuals make internal attributions for positive outcomes and external attributions for negative ones (Libby and Rennekamp 2012; Moore and Cain 2007); for narcissists, this effect is magnified. When facing undesirable outcomes, narcissists are increasingly more self-serving in their attributions, taking credit for successes and blaming others for failures (Campbell et al. 2000; Stucke 2003). Appealing to both SAT and narcissists' self-serving bias, I expect that narcissistic managers will be more likely to attribute an investment's poor performance to the actions of others and, consequently, will be less likely to engage in escalation of commitment, relative to non-narcissist managers.

As Young et al. (2016) note, there is a growing need to understand how the judgments and decisions of narcissists and non-narcissists differ in the workplace so that effective controls can be designed to capitalize on narcissists' strengths while minimizing their weaknesses. In this thesis, I examine whether narcissists' escalation tendencies differ and propose a theory-based control, perspective-taking, to mitigate managers' escalation and increase their attention of alternative, more profitable investments. Specifically, I examine the effectiveness of prompting managers to consider an outside manager's perspective as a control to reduce managers'

⁵ In psychology, ego-threat occurs when an individual's ego, or positive self-view, is threatened (Leary et al. 2009).

escalation tendencies. To formulate my theoretical predictions, I draw upon research on perspective-taking (e.g., Davis 1983; Davis et al. 1996; Epley and Caruso 2009) which suggests that prompting a decision-maker to adopt an outside manager's perspective increases psychological distance and thereby lessens the tendency to behave self-interestedly (Shih et al. 2009). Regarding escalation, theory suggests that considering an outsider's perspective will reduce the ego-threat triggered upon receiving negative project feedback, and thus reduce manager's willingness to support an underperforming project. Given my expectation that less narcissistic managers are more likely to experience ego-threat and subsequently escalate, perspective-taking as a de-escalation technique may be more effective in reducing their escalation.⁶

In this study, I conducted an experiment measuring manager participants' narcissism while manipulating both project performance (adequately performing/underperforming) and perspective-taking (prompt present/prompt absent). Manager participants were recruited through Prolific, an online crowdsourcing platform, and the experiment was conducted online in two phases. In Phase 1, participants completed a series of personality tests, including a narcissism scale. In Phase 2, which occurred approximately one week after Phase 1, participants proceeded through an online investment decision scenario. In Phase 2, all participants initially select one of two proposed capital projects in which to invest and are subsequently provided with a project update in which the investment is either performing well or poorly. Participants have the option of continuing with their initially selected project or of switching to an alternative capital project

⁶ In this study, I use 'escalate' to indicate managers' increased commitment to a poorly performing investment.

that provides the potential for higher returns. Escalation is measured as participants' willingness to continue supporting the initially chosen project.⁷

Results do not support my predictions. Contrary to expectations, I do not find that less narcissistic managers are more likely to engage in escalation of commitment than narcissists nor do I find that perspective-taking reduces managers' escalation. Surprisingly, however, I find that prompting narcissistic managers to consider the perspective of an outside manager actually *increases* their escalation tendencies.

Rather than draw from their abundant affirmational resources and blame others for project failure, results suggest that, for narcissistic managers, perspective-taking increases the salience of an "outside audience" who may negatively evaluate the manager and this triggers narcissists' ego-threat (Sassenrath et al. 2016). Rather than reduce managers' escalation tendencies, in this setting, perspective-taking appears to motivate narcissists to engage in face-saving activities (Pinto and Patanakul 2015).

With growing attention in accounting research regarding the impact of perspective-taking prompts on judgment (e.g., Altiero et al. 2015; Hamilton 2016; Mayorga and Trotman 2016), this study contributes to the literature by exploring potential benefits and pitfalls of this prompt for reducing managers' escalation. As narcissism levels rise over time (Twenge et al. 2008) and narcissists seek positions of power (Campbell et al. 2011), this study suggests that more research is warranted to improve managers' judgments while taking into consideration individual differences in narcissism. The main contribution of this study is to demonstrate the complexity of designing effective management controls that guide the decision-making of narcissists tasked with making capital reinvestment decisions. While theory suggests narcissists are less likely to

⁷ Experimental materials used in this study are adapted with permission from Seybert (2010) and Ang and Cheng (2016).

escalate than non-narcissists, to my knowledge this has not been empirically examined. Thus, this study contributes to the escalation of commitment literature by exploring the impact of one important personality trait of managers on operational decisions and a theory-based strategy designed to reduce managers' escalation of commitment. In accounting, this study adds to the growing line of research examining the association between manager's personality traits and accounting-related outcomes. Prior archival research finds a positive association between executives' narcissism and use of tax shelters (Olsen and Stekelberg 2016) as well as increased earnings-per-share driven by real earnings management (Olsen et al. 2014). This experimental study will complement prior literature by adding to our understanding of how managers use accounting information and demonstrating the sensitivity of managers' narcissism to negative project feedback.

The remaining sections are organized as follows. In Chapter 2, I discuss the background literature and hypothesis development. In Chapter 3, I describe the research design. In Chapter 4, I present results of the tests of hypotheses and discuss the findings. I also conduct and discuss exploratory analyses. Finally, in Chapter 5, I discuss the limitations of my study and future research opportunities that could provide a better understanding of the relationship among narcissism, perspective-taking and escalation of commitment.

Chapter 2: Literature Review and Hypotheses Development

2.1 Overview

In this chapter, I review existing psychology, organization sciences and accounting literature to examine how narcissism and perspective-taking may impact managers' escalation of commitment. This chapter is organized as follows. In Section 2.2, I describe escalation of commitment and discuss theoretical explanations for the phenomenon. In Sections 2.3 and 2.4, I review the literature on narcissism, including research in accounting, and perspective-taking, respectively. Lastly, in Section 2.5, I review the literature on narcissism and perspective-taking.

2.2 Escalation of Commitment

Completing Tennessee-Tombigbee [Waterway Project] is not a waste of taxpayer dollars. Terminating the project at this late stage of development would, however, represent a serious waste of funds already invested.

Senator Sasser, November 4, 1981

Escalation of commitment is the tendency for individuals to persist with a given course of action that is failing despite having an option to withdraw (Brockner 1992; Staw 1997).⁸ High-profile examples can be found in a variety of contexts. Examples include Boston's Big Dig highway construction project (Dahl 2001), New York's Shoreham Nuclear Power Plant (Ross and Staw 1993), the London Stock Exchange's "Taurus" information technology project (Drummond 1996) and numerous military campaigns (Staw 1976). Escalation of commitment

⁸ Entrapment is a closely related concept to escalation of commitment and researchers often do not distinguish between them (e.g., Brockner and Rubin 2012). Entrapment situations are those in which an individual persists with a failing course of action (Schulz-Hardt et al. 2009), such as waiting for a bus that is already 15 minutes late or staying in an unsatisfying job (Brockner and Rubin 2012), however, the individual is not always aware that the persistence is not prudent. That is, participants in entrapment studies typically are not provided with negative feedback (e.g., Brockner et al. 1981) and, as a result, they have difficulty assessing the likelihood of achieving their desired outcome. Thus, entrapment studies do not conform to traditional interpretations of escalation of commitment in which individuals persist after learning that the initially expected outcome is unlikely to occur (Sleesman et al. 2012).

can also be found in everyday life, such as decisions of whether or not to hold investments that have declined in value or stay in a troubled marriage (Staw 1997).

Often described as “throwing good money after bad”, escalation situations are those in which “costs are suffered in a course of action, where there is an opportunity to withdraw or persist, and where the consequences of persistence and withdrawal are uncertain” (Staw and Ross 1987a, 40).⁹ While escalation may be described as an irrational choice, according to rational theories of human behaviour, individuals choose alternatives that maximize their subjective expected utility (SEU) and their SEU is influenced by the individual’s perceived value of the goal and the perceived likelihood of attaining it. Thus, quoting Simonson and Staw (1992, 420), “the major purpose of escalation research has been to isolate noneconomic motives relevant to investment situations – to show how economic data must compete with psychological and social forces in determining investment behaviour.”

Since capital investments require substantial financial commitments that constrain managers’ ability to invest in alternatives and provide uncertain future returns, they are among the most important decisions managers face. As the previous escalation examples highlight, poor investment decisions can have devastating effects. In general terms, appropriate capital investments will enable an organization to recover the initial investment cost and earn a reasonable return (e.g., at least greater than the cost of capital); however, projects frequently do not proceed as anticipated and managers must consider whether or not continued support is warranted. To guide managers in making capital reinvestment decisions, capital budgeting techniques, such as net present value or real options analysis, may be incorporated into an

⁹ Although there may be many instances in which the continued support of a failing endeavour is prudent, *escalation of commitment* describes situations in which the objective evidence indicates that withdrawal is the appropriate response yet individuals persist with their initially chosen course of action (Kelly and Milkman 2013).

organizations control system, although their effectiveness may be limited if they fail to address the underlying psychological phenomena contributing to managers' escalation. Therefore, designing management control systems that guide managers' reinvestment decisions must begin with understanding why managers escalate.

2.2.1 Escalation Model

To date, there is no theoretical model of escalation of commitment, however Staw and Ross (1987a) provide a useful classification of factors contributing to individuals' escalation behaviours. In their model, Staw and Ross (1987a) identify four broad categories of escalation determinants: project, psychological, social and structural. Project determinants are factors that inhibit an individual's assessment of an investment's viability and its perceived value, for instance when investment feedback is ambiguous (e.g., Bowen 1987; Ghosh 1997; Heath 1995) or when opportunity costs are not explicit (Northcraft and Neale 1986; Keil et al. 1994). Psychological determinants are those impacting the cognitive and affective decision-making processes of individuals, such as the magnitude of sunk costs¹⁰ (e.g., Arkes and Blumer 1985; Barsky and Zyphur 2016; Friedman et al. 2007; Garland et al. 1990) and ego-threats¹¹ (Zhang and Baumeister 2006). Social determinants are factors that capture the impact other's have on one's decision to escalate, such as increased monitoring by others (e.g., Kirby and Davis 1998; McNamara et al. 2002) and structural determinants are features of an organization that influence an individual's escalation decision, such as decision-makers possessing information unknown to

¹⁰ Sunk costs are monetary and/or personal costs that have already been invested in a venture (Heath 1995). Since they cannot be recovered or changed based on future business opportunities, they are irrelevant for capital investment decisions.

¹¹ While many studies confound ego-threat with threats to one's public image, these concepts are driven by different underlying psychological processes (Leary et al. 2009). In this study, I distinguish between these two types of threats and discuss how each affects an individual's escalation tendencies.

others (e.g., Berg et al. 2009; Harrell and Harrison 1994; Harrison and Harrell 1993; Kanodia et al. 1989). Appendix A summarizes empirical research within each of the four categories.

Prior to Staw and Ross's (1987a) classification, escalation had been described as a natural occurrence arising when decision-makers lack relevant economic information (Conlon and Wolf 1980; Northcraft and Neale 1986; Northcraft and Wolf 1984), thereby reducing escalation to a simple cost-benefit decision (i.e., project determinant); however, escalation has been observed in situations in which opportunity costs are made explicit (Northcraft and Neale 1986). Thus, Staw and Ross's (1987a) model highlights the impact that other factors, namely psychological, social and structural variables, have on individuals' assessment of economic information and their willingness to support a poorly performing investment. It also underscores the importance for researchers to consider how people respond to negative investment feedback when designing management controls.

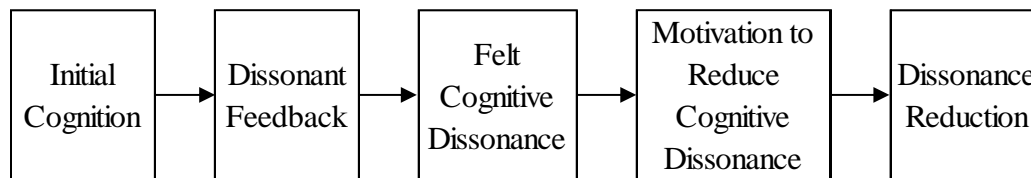
2.2.2 Self-justification and Escalation of Commitment

Why individuals escalate has been examined through various theoretical lenses. Of those, self-justification theory (SJT) has the most empirical support (Steinkühler et al. 2014) and is the most relevant for explaining escalation at the individual level (Bobocel and Meyer 1994; Brockner 1992; Cheng et al. 2003). SJT theory is based on Festinger's (1957) cognitive dissonance theory (CDT) which maintains that individuals strive to have psychological consistency and, when holding two or more conflicting cognitions, individuals experience psychological discomfort.¹² Specifically, Festinger (1957) proposed that individuals who encounter a cognition that conflicts with a previously held cognition experience cognitive dissonance. To reduce the felt dissonance, individuals are motivated to change or alter their

¹² Cognitions are "things a person knows about himself, his behaviour, and about his surroundings" (Festinger 1957, 3).

cognitions, minimize the importance of the dissonant cognition, or ignore information that conflicts with their initial cognition.¹³ Shown in Figure 1 is the process of CDT, adapted from Hinojosa et al. (2017).

Figure 1
Cognitive Dissonance Theory: Process of Cognitive Dissonance and Dissonance Reduction



Initial CDT interpretations assume that cognitive consistency is the standard being measured, however individuals often live with cognitive inconsistencies that do not arouse dissonance and motivate them to act.¹⁴ Thus, cognitive consistency is not a sufficient motive for cognitive dissonance (e.g., Abelson 1983; Greenwald and Ronis 1979; Steele and Liu 1983; Steele 1999). To better understand *when* individuals experience cognitive dissonance and are motivated to respond, researchers appeal to SJT. According to SJT, individuals have a need to justify the correctness of their initial cognition to themselves and to others, and will experience dissonance when negative feedback challenges their initial cognition.

Applied to capital investment decisions, managers making reinvestment decisions form an initial cognition regarding the successful outcome of their investment. Upon receiving information indicating that the expected outcome is unlikely to be realized (i.e., dissonant feedback), managers experience cognitive dissonance because it conflicts with their belief that

¹³ As an example, an individual who believes cake is unhealthy may experience cognitive dissonance when eating a slice. To reduce the dissonance, individuals change their dissonant behaviour (e.g., stop eating the cake), justify/rationalize eating the doughnut (e.g., “I will exercise for an additional 30 minutes to burn off the cake’s calories”), or ignore/minimize the importance of the conflicting cognition (e.g., “This cake is not an unhealthy cake”) (Lawlor 2018).

¹⁴ For instance, individuals who are keenly aware that they should not eat unhealthy foods may continue to do so and not feel sufficiently distressed to act. As Steele et al. (1993, 885) observe, “one has the option of leaving the threat unrationalized.”

they are competent (Sleesman et al. 2012; Staw and Ross 1987b) and it calls into question the validity of the initial investment (Staw 1976). While managers could accept the dissonant feedback (i.e., that the investment is performing poorly) and withdraw their support, CDT and SJT suggest that negative investment feedback triggers managers' self-justification needs (Sivanathan et al. 2008). Thus, they either reject the dissonant feedback or minimize its importance, and reaffirm their initial cognition (i.e., that their initial investment will be successful) by committing additional resources to their initial investment.

Focusing on individuals' self-justification needs, Bobocel and Meyer (1994) argue that many escalation studies appealing to SJT confound public and private justification. While private justification arises from a need to protect one's own self-view, public justification arises from the need to protect how one appears to others. While people are undoubtedly concerned with their own private self-evaluations as well as the evaluations of others, Leary et al. (2009) note that the ways in which people deal with cognitive dissonance arising from either public or private evaluation concerns can differ dramatically. The authors argue that individuals tend to use cognitive tactics (e.g., attitude change) to address self-evaluations and overt behaviours to counteract the potential negative evaluations of others. With respect to escalation of commitment, Bobocel and Meyer (1994) attempt to disentangle public and private justification and find that individuals' escalation decisions did not differ whether they were required to publicly justify or not. Their results suggest that negative investment feedback triggers both public and private justification needs and that the effectiveness of strategies designed to reduce escalation will be limited if they neglect to address managers' internal and external justification needs.

2.2.3 Cognitive Dissonance and Internal Self-justification

To better understand internal self-justification needs, many researchers appeal to self-affirmational theory (SAT). According to SAT, individuals have a fundamental desire to maintain a positive self-view (Steele 1988). When that view is threatened, SAT suggests that individuals are motivated to diminish the threat and restore their positive self-concept by engaging in self-justification. Applied to capital investment situations, managers who receive negative feedback for an investment they are responsible for overseeing sense that the feedback challenges their beliefs that they are rational and this triggers their internal justification needs. In an attempt to justify the correctness of their past investment to themselves and re-establish their positive self-view, managers increase their commitment to a poorly performing investment. Consistently, in a meta-analysis of the relevant literature, Sleesman et al.'s (2012) find that ego-threat (i.e., the threat to one's positive self-view) is the most significant predictor of manager's escalation.¹⁵

As Steele (1988) describes, when individuals' positive self-view is threatened, they have a self system that becomes activated and, through a process of rationalization and self-justification, ego-threat is minimized. He maintains that the goal of this system is to "maintain global conceptions of self-adequacy and not necessarily to resist specific self-threats" (Steele 1988, 289). Thus, individuals may restore their positive self-view through explanations,

¹⁵ In an experimental study, Zhang and Baumeister (2006) provide evidence that egotism – the need to maintain positive self-views – impacts individuals' feelings of entrapment. By informing half of the participants that they have a negative personality trait in which they choke under pressure, the authors manipulate ego-threat and measure participants' persistence on a task in which they must periodically pay to remain in a computer game that provides participants with the possibility of winning a \$10 jackpot. In this setting, the authors find that individuals whose ego is threatened persist longer. The authors conclude that ego-threat motivates managers to utilize self-justification strategies resulting in costly persistence. While many researchers do not distinguish between *escalation of commitment* and *entrapment*, in footnote 8 I describe differences between these two concepts. Most notably, participants in entrapment studies are not experiencing cognitive dissonance arising in response to negative feedback, which is characteristic in escalation of commitment studies.

rationalization and/or actions (Steele 1988). Noting that some people are more resilient to ego-threat than others, Steele et al. (1993) argue that individuals draw from their affirmational resources to diminish ego-threats and propose that individuals with more favourable self-views are better able to mitigate such threats. In multiple experiments, the researchers provide participants with negative personality feedback (e.g., that the participant is “passive in actions” and “narrow of interests”) and assess its impact on participants’ rationalization in an unrelated task.¹⁶ The authors find that individuals with higher self-esteem engage in less rationalization and conclude that individuals with greater self-affirmational resources (i.e., self-esteem) are better able to diminish threats to their self-concept arising from dissonant feedback.

Extending this rationale to capital reinvestment decisions, SAT suggests that those who receive negative investment feedback experience ego-threat and escalation of commitment is one among several available options that individuals may use to mitigate the experienced threat. Consistently, appealing to SAT, Sivanathan et al. (2008) find that prompting individuals to consider their self-esteem reduces their escalation tendencies.¹⁷

2.2.4 External Self-justification

While SAT helps to explain managers’ response to *internal* self-justification needs, managers who recognize that a project should be abandoned may still experience *external* self-

¹⁶ Steele et al. (1993) conducted four experiments in which participants were asked to rate the desirability of 10 albums. For participation bonus points, participants were permitted to choose between the 5th and 6th ranked albums. In a post-test, they were asked to re-rank the 10 albums and rationalization was measured as the amount participants increased the desirability of their chosen album plus the amount by which they decreased the undesirability of the unchosen album. Thus, a greater spread indicated greater rationalization.

¹⁷ Consistent with Steele et al. (1993), Sivanathan et al. (2008) find that bolstering individuals’ general feelings of self-worth decreases their escalation tendencies. In contrast, they also find that providing participants with negative feedback on a personally meaningful attribute (e.g., decision-making ability) that is relevant to the current task (i.e., performance evaluation of a poorly performing participant who the participant previously hired) increases their commitment. The authors maintain that reflecting upon a task-relevant, personally important value draws attention to the current self-threat and, ironically, enhances the ego-threat. Thus, to mitigate the threat, individuals engage in self-justification whereby they reaffirm the correctness of the initial decision.

justification needs, such as a desire to save face and protect one's reputation (Brockner et al. 1981). As Kanodia et al.'s (1989) analytical model demonstrates, when managers are responsible for an initial investment decision and have information unavailable to others, they may perceive that project abandonment provides a negative signal to others regarding their own managerial ability and this may adversely impact the manager's future career opportunities. In an experimental study, Seybert (2010) explains how abandoning a capital project triggers an impairment loss for all capitalized development expenses and examines whether such a financial accounting impairment loss impacts managers' commitment to underperforming projects. Consistent with SJT, these authors find that managers with greater reputational concern are more likely to reinvest rather than switch to an alternative investment that offers the potential for higher returns.

In summary, SJT helps to explain *why* managers engage in escalation of commitment, whereas SAT helps to explain *when* negative investment feedback arouses cognitive dissonance and *whether* managers' internal and external self-justification needs are triggered.¹⁸ Thus, these theories suggest that individual differences, such as the magnitude of managers' affirmational resources and their sensitivity to public evaluation, will impact managers' escalation tendencies.

2.2.5 De-escalation of Commitment

Defined as the "reversal of escalating commitments to failing courses of action, either through project termination or redirection" (Keil and Robey 1999, 65), de-escalation strategies have received comparatively less attention than the large body of research focusing on factors contributing to managers' escalation. Typically, de-escalation strategies can be derived from the

¹⁸ Leary et al. (2009) maintain that individuals tend to use cognitive tactics to counteract private ego-threats (e.g., attitude change) and overt behaviours to counteract threats to their public image. In this study, I expect that managers making capital reinvestment decisions of a poorly performing project experience both types of threats.

theoretical constructs researchers have proposed that impact managers' escalation decisions. As shown in Appendix A, studies within each category of determinants often appeal to similar theoretical underpinnings. Specifically, SJT underlies much of the research pertaining to psychological determinants, subjective expected utility theory (SUT) underlies most studies within the project determinants category, self-presentation theory frequently underlies studies examining social determinants and agency theory commonly underlies studies investigating structural determinants. Thus, de-escalations strategies are often designed with attention to the respective underlying theoretical construct.

With CDT and SJT indicating that managers who are responsible for making an initial investment escalate in response to negative investment feedback, separating the responsibility of initial investment decisions from subsequent reinvestment decisions is a logical de-escalation strategy. In their seminal escalation study, Staw and Fox (1977) find that managers who are not responsible for an initial investment are less willing to escalate their commitment to a poorly performing corporate division, presumably because these managers do not feel a sense of ego-threat and do not perceive that their reputation will be impacted by de-escalating. Consistently, in numerous studies, researchers find that managers who are not responsible for an initial investment are less likely to escalate their commitment (e.g., Schoorman et al. 1994; Schulz and Cheng 2002; Seybert 2010). Although changing the reinvestment decision-maker is an effective tactic, it may be unreasonable for many organizations. Consequently, researchers have examined other de-escalation strategies.

Appealing to CDT, Ang and Cheng (2016) provide evidence that triggering managers' *anticipated* dissonance arising from escalating can reduce their support of an underperforming investment. The authors conduct an experiment in which participants are prompted to self-certify

that they have considered all available alternatives before making a reinvestment decision. Ang and Cheng (2016) argue that managers become cognitively committed to their certification and, for those who consider themselves to be honest, ethical individuals, the cognitive commitment increases the dissonance they *anticipate* experiencing if they were to continue to support an underperforming investment. Consistent with their prediction, they find that self-certification reduces managers' escalation tendencies (Ang and Cheng 2016).¹⁹

In a related study, Cheng et al. (2003) provide evidence that managers who self-set project hurdle rates exhibit reduced escalation tendencies. Drawing from CDT and SUT, the authors propose that the self-set hurdle rates create a psychological contract between the manager and the rate. While CDT indicates that negative investment feedback arouses cognitive dissonance, SUT suggests that individuals assess all possible outcomes of escalating and de-escalating, as well as the perceived likelihood that each outcome will occur, and will choose the option that yields the highest expected utility. When managers evaluate the prudence of continuing to support an underperforming investment, Cheng et al. (2003) argue managers are psychologically committed to using the hurdle rate and this makes the dissonant investment feedback both more salient and more difficult to reject. Furthermore, the hurdle rate provides managers with a clear benchmark for assessing the performance of an investment and reduces the information ambiguity of negative feedback. Consequently, managers are better able to assess the impracticality of continuing with a poorly performing project and subsequently reduce their escalation.

¹⁹ Ang and Cheng (2016) examine self-certification as a control for reducing managers' escalation when they receive several rounds of negative investment feedback. While they find that self-certification reduces managers' initial reinvestment decision, participants who did reinvestment were significantly more likely to continue reinvesting despite receiving additional negative feedback regarding their investment. The authors argue that reinvesting after receiving negative feedback increases the cognitive dissonance experienced by managers during subsequent reinvestment decisions and heightens their self-justification needs. Consequently, those managers are more likely to continue supporting a poorly performing project.

Other researchers appealing to SUT observe that escalation occurs when managers have difficulty judging the economic viability of increased investment (Ghosh 1997). Thus, removing features that inhibit an individuals' assessment of potential outcomes, such as increasing the salience of opportunity cost information or providing managers with unequivocal investment feedback and projections of expected future benefits arising from increased investment, improves their ability to assess the prudence of continuing their support of a poorly performing investment (e.g., Northcraft and Neale 1986; Parks and Conlon 1990). In accounting, Denison (2009) finds that prompting managers to use real options analysis, rather than net present value, to assess a project's future prospects reduces managers' escalation tendency, presumably because real options analysis provides clear guidance on the benefits of continued investment at different stages of a project's development and signals when investments ought to be abandoned.

As previously mentioned, managers are more likely to escalate when they perceive that abandonment would damage their reputation. This is consistent with self-presentation theory which posits that individuals manage the impression others have of them and is closely related to SJT in which individuals are motivated to justify their prior decisions to others. To de-escalate, studies demonstrate that minimizing the threat of others' negative evaluations, such as assessing managers on their decision process rather than the outcomes of their investments (Simonson and Staw 1992) or advising managers that project failure is an acceptable outcome (Mahlendorf 2015), reduces escalation.

Each of the de-escalation strategies mentioned above assume that managers have access to private information regarding an underperforming investment that is unknown to others. According to agency theory, this information asymmetry motivates managers to act self-interestedly by engaging in escalation of commitment. A number of studies appealing to agency

theory commonly find that escalation is mitigated when all projected economic costs and benefits are publicly available (e.g., Berg et al. 2009; Harrell and Harrison 1994; Harrison and Harrell 1993).

While these de-escalation techniques may effectively reduce escalation, they overlook the impact that individual differences have on managers' continued support of poorly performing projects. Recognizing that individuals' personality traits and attitudes affect their decision-making, there is a growing literature in management and accounting research exploring the impact of these factors on the decision-making of managers and employees (e.g., Ham et al. 2012; Judd et al. 2017; Olsen et al. 2014; Olsen and Stekelberg 2016; Wang 2017). To better understand the impact of managers' personality on their decisions, Griffiths et al. (2016) propose a new judgement and decision making (JDM) framework that expands upon prior ones (e.g., Libby and Luft 1993). One of the most notable additions is the inclusion of conscious and nonconscious goals influencing judgment quality. While conscious goals are pursued explicitly, nonconscious goals are implicit and automatic and may be primed, for example, by exposure to the goal-directed behaviour of others (Custers and Aarts 2014). Psychology research finds individuals hold multiple goals and choose which one to pursue based on the individual's strength of commitment to it, opportunities to attain the goal, and the value one places on the goal (Kruglanski et al. 2002).

Applied to escalation of commitment scenarios, Griffiths et al.'s (2016) JDM framework suggests that managers have conscious goals, such as overseeing successful investments, and nonconscious goals of protecting their positive self-view and avoiding reputation damage. When an investment is performing well, managers can achieve these goals simultaneously; however, when any of these goals are threatened, Griffiths et al. (2016) suggest that individuals will pursue

the goals they perceive are important for career advancement and that these goals arise from personal characteristics, such as narcissism. In terms of this JDM framework, de-escalation strategies ignoring individual differences on manager's goal pursuit may have limited effectiveness.

2.3 Narcissism

One individual difference theorized to impact managers' escalation is narcissism (Pinto and Patanakul 2015)²⁰ As a relatively stable individual trait (Rosenthal and Pittinsky 2006), narcissism, as a psychological construct, is characterized by self-importance, self-absorption, self-admiration, superiority, uniqueness, entitlement, exploitativeness, and arrogance (Emmons 1984; Emmons 1987; American Psychiatric Association (APA) 2000). While the APA classifies narcissism as a clinical disorder with pathological personality traits of grandiosity and attention seeking (APA 2013), a substantial amount of evidence indicates sub-clinical or "normal" narcissism is pervasive in the general population (Twenge et al. 2008) and is increasing over prior generations (Twenge and Campbell 2008).²¹

²⁰ To the best of my knowledge, only one study has examined the relationship between narcissism and managers' persistence in a losing course of action. Zhang and Baumeister (2006) examine the impact of self-esteem on entrapment, and explore the impact of narcissism. In footnote 8, I contrast *escalation of commitment* with *entrapment* and in footnote 15 I discuss Zhang and Baumeister's (2006) study. While the authors find a positive effect of self-esteem on entrapment, they do not find a statistically significant effect of narcissism. My study differs from theirs in several important ways. First, participants in their study were not provided with feedback that would enable them to assess the probability of winning the jackpot. Thus, participants were not aware they were pursuing a 'losing course of action'. Secondly, in their study, there is no actual or perceived audience that may assess participants' performance. Thus, participants responded to threats to their private self-esteem (i.e., *internal* justification needs) rather than their public image. In contrast, in my study, I examine whether managers' narcissism impacts their willingness to escalate rather than invest in a more profitable alternative in which the presence of an audience is implied.

²¹ Narcissism is conceptualized as a continuous variable, rather than a categorical one. As with many personality traits, narcissism is considered to be normally distributed with most people scoring near the middle of the distribution and relatively fewer people at the extremes. Various scales have been developed to measure individuals' narcissism, such as the NPI-40 (Raskin and Terry 1988) and NPI-16 (Ames et al. 2006). Consistent with convention, in this study I refer to *narcissists/narcissistic managers* as those scoring above the mean, and *non-narcissists/non-narcissistic managers* as those scoring below the mean.

2.3.1 Nature of Narcissism

Research suggests narcissistic characteristics tend to cluster into two broad categories: grandiosity and entitlement (Brown et al. 2009; for reviews see Campbell et al. 2006; Morf and Rhodewalt 2001). Where grandiosity has an intrapersonal orientation toward maintaining an internal sense of self-importance (Brown et al. 2009), entitlement is an interpersonal orientation in which narcissists use others for their own self-enhancement, best described as an “others exist for me” illusion (Sedikides et al. 2002). Paradoxically, narcissists can be charming yet insensitive to others’ opinions, beliefs or feelings; they can be self-aggrandizing and either be overly sensitive to criticism (Morf and Rhodewalt 2001) or ignore it (Young et al. 2016) and, when narcissists perceive their ego is publicly threatened, they may respond with aggression (Bushman and Baumeister 1998; Ferriday et al. 2011).

2.3.2 The Agency Model of Narcissism

The Agency Model of Narcissism (AMON) (Campbell et al. 2006; Campbell and Foster 2007) provides insight regarding the internal motivations of narcissists. According to the AMON, narcissists engage in goal-directed behaviours, such as self-promotion, to support “narcissistic esteem” (Campbell et al. 2006, 65) which is described as a “good feeling” (Campbell and Foster 2007, 122).²² More than simply acutely high self-esteem, narcissistic esteem is dominance-related (Brown and Zeigler-Hill 2004). That is, narcissists perceive they are better than others (e.g., higher status, more attractive, smarter) (Campbell and Green 2008; also see Campbell, Rudich, et al. 2002). To support this type of esteem, narcissists use self-regulatory

²² Narcissist esteem is not to be confused with self-esteem. While many narcissists may have high self-esteem, there are important differences between self-esteem and narcissist esteem (Brummelman et al. 2016). For instance, narcissists tend to focus upon what others can do for them while lacking a true interest in developing warm, personal bonds with others. In contrast, individuals with high self-esteem tend to focus on fostering strong interpersonal relationships (Medaris Miller and Lyon 2018). Additionally, narcissists tend to have high esteem in agentic domains but not in communal ones, whereas individuals with high self-esteem tend to span both domains (Campbell and Foster 2007).

strategies that differ from non-narcissists in four fundamental ways: (1) inflated self views and sense of entitlement, (2) agentic (versus communal) concerns, (3) focus on self-esteem, and (4) approach (versus avoidance) orientation (Campbell et al. 2006).

At the core of narcissism is the deeply-held belief that the narcissist is better than others. Narcissists have inflated positive self-views that are inconsistent with reality and this motivates narcissists to bolster their high self-opinion through the use of self-enhancement strategies (Campbell et al. 2006). For instance, relative to non-narcissists, narcissists report exaggerated self-descriptions (Gabriel et al. 1994), performance ratings (John and Robins 1994) and abilities (Farwell and Wohlwend-Lloyd 1998). To support their inflated self-views, narcissists surpass others, either in fact or appearance (Campbell and Foster 2007). For instance, when there is an audience, narcissists' performance improves (Wallace and Baumeister 2002) and when actual performance is not strong, narcissists are more likely to misreport (inflate) their reported performance (Campbell, Goodie, et al. 2004; Hales et al. 2016). Moreover, narcissists will steal credit from others for successes yet blame others (Campbell et al. 2000; Gosling et al. 1998; John and Robins 1994) or the situation for failures, rather than themselves (Farwell and Wohlwend-Lloyd 1998; Rhodewalt and Morf 1995; Stucke 2003). They are also more likely to fantasize about power and status than are non-narcissists (Raskin and Novacek 1991). Unsurprisingly, narcissists have a strong sense of entitlement in which they feel they are deserving of more rewards than others relative to a given amount of input (Fisk 2010). Unlike normal entitlement in which attention and praise are based on actual accomplishments, narcissists possess a heightened sense of uniqueness (Emmons 1984) and psychological entitlement (Campbell, Bonacci, et al. 2004) that is unrealistic (Gabriel et al. 1994; John and Robins 1994) and undeserved (Ackerman et al. 2011). For instance, relative to objective criteria, narcissists overestimate their intelligence

and intellectual abilities (Gabriel et al. 1994) and claim to have knowledge of fictitious items or events (Paulhus et al. 2003).

With an inflated self-view, narcissists have elevated self-esteem (Geukes et al. 2017), however, in contrast to individuals with overall high self-esteem, narcissists esteem is not indiscriminate. That is, narcissists perceive themselves to be better than others in agentic domains (e.g., competence, status, power, intelligence, extraversion; Campbell et al. 2006; Campbell and Green 2008) but not in communal domains (e.g., caring, conscientiousness; Campbell, Rudich, et al. 2002). Thus narcissists tend to focus on status and power rather than fostering strong relationships with others (Campbell 1999; Campbell, Foster, et al. 2002). Described as a paradox of narcissism, narcissists tend not to consider or care about others, yet need others to fulfill their own intense desire for attention. Narcissists experience others only from the viewpoint of others' utility (Le and Levenson 2005), ignore the judgments of others that conflict with their own (Lubit 2002; Maccoby 2000), and use relationships to enhance their own status, power and esteem (Campbell and Foster 2007) which contributes to narcissists' self-serving abuse of power (Maccoby 2000). To others, narcissists are perceived as energetic and socially extraverted (Bradley and Emmons 1992) and are liked in initial meetings (Paulhus 1998; Oltmanns et al. 2004); however, their lack of interest in developing warm and caring relationships (Campbell et al. 2002) and their tendency to engage in behaviours that benefit themselves at the expense of others (Campbell et al. 2005) eventually leads to a reversal of others' initially positive impression of narcissists (Paulhus 1998).

Most importantly for this study, narcissists have a high approach/low avoidance orientation. Quoting Campbell et al. (2007, 118), "Narcissists look for opportunities to enhance the self with relatively little fear of failure." Accordingly, narcissist adopt more aggressive

investment strategies (Foster et al. 2009) and take riskier bets (Campbell, Goodie, et al. 2004; Lakey et al. 2008) than non-narcissists. While the general hedonic principle suggests all people approach pleasure and avoid pain, these factors are not equally motivating. According to regulatory focus theory (RFT), there are two distinct regulatory systems, a promotion focus and a prevention focus. While individuals possess both regulatory systems, at any given point in time one system tends to dominate (Scholer and Higgins 2012). Thus, individuals are described as having a chronic promotion or prevention orientation. Examining the link between promotion-prevention orientations and approach-avoidance motivations, Förster and colleagues (Förster et al. 1998; Förster et al. 2001) demonstrate that individuals with a promotion orientation exhibit greater motivational strength when approaching desired end-states than they do avoiding undesired end-states, whereas individuals with a prevention orientation exhibit greater motivational strength when avoiding undesired end-states than they do approaching desired end-states. Additionally, when pursuing goals, promotion-focused individuals are motivated to use approach strategies whereas prevention-focused individuals are motivated to use avoidance strategies (Higgins et al. 2001; see Förster et al. 1998) Thus, there is a strong association between promotion-orientations and approach motivations, and between prevention-orientations and avoidance motivations (Elliot and Thrash 2010).²³ Moreover, research suggests that higher narcissism is associated with a promotion focus whereas lower narcissism is associated with a prevention focus (Konrath and Bushman 2008).

²³ Elliot and Thrash (2010) distinguish between approach/avoidance temperaments and promotion/prevention motivations. The authors describe approach/avoidance as psychological processes and promotion/prevention as the self-regulatory strategies used to reach desired goals and/or avoid undesirable goals. As stated by Foster et al. (2009, 765, footnote 3), promotion focus is a “strategic focus that is triggered by appetitive (i.e., approach) motivations.” Due to the strong conceptual overlap between approach/avoidance and promotion/prevention and consistent with Foster et al. (2009), I do not distinguish between these concepts in this study.

2.3.3 Narcissism in Accounting

While narcissism has been explored extensively in psychology, only recently has it gained attention in the accounting literature focusing primarily on the narcissism of senior executives. Using unobtrusive measures as proxies of narcissism, researchers find an association between CEO narcissism and the number and size of firm acquisitions and with extreme fluctuations in organizational performance (Chatterjee and Hambrick 2007).²⁴ Ham et al. (2017) find narcissistic CFOs are associated with increased earnings management, delayed loss recognition, weaker internal control quality, and higher probability of restatements while narcissistic CEOs are more likely to initiate acquisitions (Aktas et al. 2016). Narcissistic leaders are also positively associated with key financial performance indicators such as higher EPS and share prices (Olsen et al. 2014) and increased use of tax shelters (Olsen and Stekelberg 2016).

While it is difficult to draw causal inferences from these archival studies, some have described narcissistic leaders as using accounting information to enhance their own self-image (Anderson and Tirrell 2004; Amernic and Craig 2010). Supporting this assertion, Wang (2017) finds that narcissists are more likely to exert greater effort when this effort is publicly recognized and Hales et al. (2016) find that narcissists are more likely to inflate their reported performance to others. These findings are consistent with psychology research which posits that narcissists' intense need (or nonconscious goal using the language suggested by Griffiths et al. 2016) to maintain a positive self-view motivates them to seek opportunities for attention and admiration

²⁴ Unobtrusive measures of narcissism include the size of the CEOs photo in the annual report, the prominence of the CEOs name in firm-provided press releases, the magnitude of pay differences between CEOs and other senior executives (Chatterjee and Hambrick 2007; Chatterjee and Hambrick 2011; Judd et al. 2017; Olsen et al. 2014; Olsen and Stekelberg 2016), the use of first-person singular pronouns (Aktas et al. 2016; Chatterjee and Hambrick 2007), and CEO signature size in the annual report (Ham et al. 2017; Ham et al. 2012).

(Campbell et al. 2011), and these actions are not due to an intrinsic need to self-evaluate (Wallace and Baumeister 2002).

2.3.4 Narcissism and Escalation of Commitment

As previously discussed, SAT posits that individuals have a need to maintain a positive self-view and that managers' escalation is a response to felt cognitive dissonance and a need to justify the appropriateness of an initial investment both to oneself and to others. While this implies that individuals with greater positive self-views would feel more threatened by negative feedback and, thus, would be more likely to commit additional resources to an underperforming investment, researchers find the opposite effect. As Steele (1988) propose, individuals have a self system that defends against ego-threats and central to this system is its flexibility in responding to threats. When individuals encounter a dissonance-provoking act or event, their self-system is triggered and those with more substantial affirmational resources are better able to draw from those resources to reaffirm their global positive self-view and diminish the pressure to respond to a specific ego-threat. In an experiment, Steele et al. (1993) provide evidence that individuals with higher self-esteem are better able to defend against specific ego-threats arising from dissonant feedback. Extending these findings, Holland et al. (2002) find that individuals with higher self-esteem do not exhibit internal nor external self-justification strategies in response to cognitive dissonance, whereas individuals with low self-esteem exhibit both. Consistently, examining escalation of commitment, Sivanathan et al. (2008) find that prompting individuals to consider their self-esteem reduces their escalation tendencies, presumably because they can restore their positive self-view and lessen the threat of negative investment feedback.²⁵ In this

²⁵ While, Sivanathan et al. (2008) find that bolstering individuals' general feelings of self-worth decreases their escalation tendencies, they also find that providing participants with negative feedback on a personally meaningful attribute (e.g., decision-making ability) that is relevant to the current task (i.e., performance evaluation of a poorly performing participant who the participant previously hired) increases their commitment. The authors

light, given narcissists inflated self-views, SAT suggests that narcissists have an abundance of self-affirmational resources to draw from that diminish the pressure to respond to a specific ego-threat.

While SAT suggests that narcissists are less likely to escalate, narcissists' high approach/low avoidance orientation also indicates that they are less likely to continue supporting an underperforming project. A number of studies examining approach-oriented individuals find they are less concerned with loss, are more likely to consider a broader range of alternatives, and are more willing to abandon prior activities to pursue new opportunities (Hui and Molden 2014; Liberman et al. 2000). Hui and Molden (2014) argue that promotion-oriented individuals have goals of growth and promotion and are therefore more willing to consider various alternatives to identify the option providing the best opportunity to advance. In contrast, the authors maintain that prevention-oriented individuals are focused on security and preventing losses. As they predict, Hui and Molden (2014) find that individuals with a promotion focus exhibit reduced escalation tendencies whereas those with a prevention focus retain their initially chosen option, despite having more attractive alternatives in which to investment. Extending these findings, Molden and Hui (2011) find that activating an individual's promotion orientation reduces their escalation tendencies relative to activating an individual's prevention orientation or no activation at all.

While Steele et al.'s (1993) extension of SAT suggests that narcissists are less likely to escalate, psychology research suggests that non-narcissists are more likely to do so. According to the Kanodia et al. (1989) model of escalation, managers who perceive that project abandonment

maintain that reflecting upon a task-relevant, personally important value draws attention to the current self-threat and, ironically, enhances the ego-threat. Thus, to mitigate the threat, individuals engage in self-justification whereby they reaffirm the correctness of the initial decision.

signals poor managerial ability experience heightened reputational concerns in response to negative investment feedback and this activates their self-justification needs. Characterized as concern for what other's think of one's personal qualities, reputation concerns direct an individual's attention to how one appears to others (Gervais and Norenzayan 2012; Mifune et al. 2010). Reputation concerns motivate people to modify their behaviour in ways that maintain or enhance their reputation when they believe that their qualities and behaviours are being judged by others (Emler 1990), that their reputation it is at stake (van Bommel et al. 2012), and that having a positive reputation will benefit them in the future (Sigmund and Nowak 1998; Roberts 1998). In psychology, researchers find reputational concern is an individual difference characteristic (Cavazza et al. 2015) and prevention focused individuals have greater reputational concerns than promotion focused individuals (Pfattheicher 2015) and are more likely to modify their behaviour in reputation-beneficial ways when they perceive others may evaluate them (Keller and Pfattheicher 2011).²⁶

Contrasting narcissists and non-narcissists, SAT suggests that narcissists' heightened self-views help to buffer them against ego-threats. While narcissists may feel threatened by dissonant feedback, they can draw from their abundant affirmational resources to restore their positive self-view and feel less pressure to escalate. Furthermore, their high approach/promotion, low avoidance/prevention orientation suggests that they are more willing to consider a variety of available alternatives, are more willing to take chances and pursue opportunities for enhancement and are less committed to their prior decisions than are non-narcissists.²⁷ In light of

²⁶ While theory and experimental research indicates that prevention focused individuals tend to be more concerned with what others think of them and thus have greater reputation concerns than those with a promotion focus, this is not to say promotion focused individuals are unconcerned with their reputation (Pfattheicher 2015). Rather, research suggests that prevention focused individuals are simply *more* concerned with their reputation (Pfattheicher 2015; Cavazza et al. 2015).

²⁷ To the best of my knowledge, researchers have not explored narcissists' commitment to their prior investments, however drawing from observations of narcissists' in romantic relationships, researchers find that narcissists are

Griffiths et al.'s (2016) framework, narcissists have a nonconscious goal of reinforcing their positive self-view which motivates them to use self-enhancing strategies such as pursuing opportunities with the potential for glory (Wallace and Baumeister 2002), inflating positive perceptions of their own performance (Gabriel et al. 1994), and blaming others for failure while taking the credit for successes (Campbell et al. 2000a; Stucke 2003). Thus, theory suggests narcissists are able to buffer against ego-threats by dismissing negative feedback and reaffirming their positive self-view by drawing from their affirmational resources.

While non-narcissists can certainly have self-affirmational resources to draw from when experiencing ego-threat, the magnitude of those resources is not as abundant as those of narcissists. In contrast to narcissists, non-narcissists are more likely to have a predominantly higher prevention orientation. Based on psychology research demonstrating that prevention focused individuals are more sensitive to failure and motivated more by negative feedback whereas promotion focused individuals are more sensitive to success and are motivated more by positive feedback (Idson et al. 2000; Idson and Higgins 2000; Van-Dijk and Kluger 2004), non-narcissists would be more sensitive to negative investment feedback and more motivated to prevent possible reputational damage by engaging in escalation of commitment. When facing a reinvestment decision, I expect that managers' narcissism will influence their response to negative feedback and their support of a poorly performing investment. Specifically, I expect that narcissists are more likely to abandon an underperforming project in favour of a more profitable alternative investment whereas non-narcissists will be motivated to protect their reputation through increased escalation.²⁸ Stated formally, I hypothesize the following:

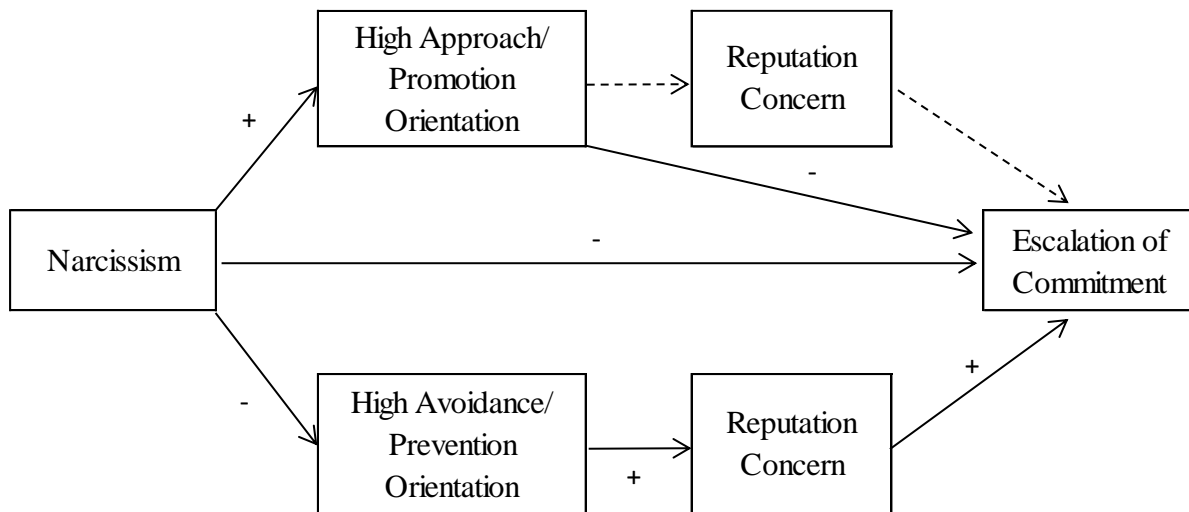
less committed to their current partner which is attributed to their perception that they have better alternatives to the current relationship and are willing to attend more to potential partners (Campbell and Foster 2002).

²⁸ To balance reputation concern, all participants are informed that managers that have a high internal rate of return (IRR) on their portfolio of investments are valued in their industry.

H1: Narcissism is negatively associated with escalation of commitment to an underperforming project.

Figure 2 shows a summary of the theoretical model of relations underlying my prediction in Hypothesis 1.

Figure 2
Theoretical Model of Relations Underlying Hypothesis 1



2.4 Perspective-taking

While I predict that narcissistic managers are less likely to exhibit escalation, recommending that firms recruit narcissists is unreasonable. For instance, narcissists are poor listeners who resist being mentored (Maccoby 2000). Furthermore, narcissists are more likely to engage in counterproductive workplace behaviours (O’Boyle et al. 2011). Therefore, rather than recommend organizations recruit based on personality differences, I examine the possibility of perspective-taking as a strategy that organizations may implement to reduce managers’ escalation tendencies regardless of the extent of their narcissism.

For decades, psychologists have recognized that individuals’ judgments are self-centred since our own thoughts and intentions are easily accessible while those of others are less salient

(Davis 1983; Epley et al. 2004; Gilovich et al. 2000; Ross and Sicoly 1979) and suggest that egocentric bias is the opposite of perspective-taking (Gendolla and Wicklund 2009).²⁹ According to Epley et al.'s (2004) anchoring and adjustment model, when engaging in perspective-taking, individuals initially anchor on their own perspective and subsequently adjust toward others' perspectives until they reach a plausible estimate between the two perspectives. Consistent with theory, researchers find that egocentric bias is attenuated by perspective-taking (Davis 1983; Davis et al. 1996; Epley and Caruso 2009; Zhou et al. 2013).³⁰ For example, individuals engaging in perspective-taking rely less on stereotypes when forming impressions, exhibit less in-group bias (Galinsky and Moskowitz 2000; Vescio et al. 2003) and are more likely to rely on others' advice (Yaniv and Choshen-Hillel 2012). Additionally, perspective-taking reduces individuals' tendency to overestimate their contribution to group performance (Savitsky et al. 2005), facilitates balanced reasoning (i.e., increased consideration of pros and cons) (Staudinger and Glück 2011), and helps buffer against the effects of personally meaningful, negative experiences (Kross and Ayduk 2011; Kross and Grossmann 2012).

In accounting, perspective-taking has been associated with several positive outcomes. For instance, when prompted to consider a "reasonable investors" perspective, auditors are better able to distinguish between qualitatively more versus less material misstatements (Altiero et al. 2019) and managers are more likely to disclose a probable event that would have a negative impact on the firm's earnings expectations (Mayorga and Trotman 2016). When prompted to consider a client's perspective, auditors are more likely to assess a misstatement as intentional

²⁹ An egocentric bias is the tendency to rely heavily on one's own perspective (Ross and Sicoly 1979; Zuckerman et al. 1983).

³⁰ Epley and Caruso (2009) suggest that individuals' adjustments may not be sufficient, resulting in estimates that remain egocentrically biased.

when fraud risk is heightened (Hamilton 2016) and when prompted to consider a specialists' perspective, auditors are more critical of and are better able to integrate audit evidence.

Focusing on escalation, CDT suggests that dissonant investment feedback threatens managers' positive self view (i.e., ego-threat) and they feel compelled to justify the correctness of their initial investment. Accordingly, researchers find a positive association between an ego-centric bias and escalation (Staats et al. 2017). Since researchers have suggested that perspective-taking is the opposite of an egocentric bias (Gendolla and Wicklund 2009), theory suggests that prompting managers to engage in perspective-taking will diminish the ego-threat associated with negative feedback, minimize their self-justification needs and subsequently reduce managers' escalation tendencies.

To the best of my knowledge, only two other studies have explored the relationship between perspective-taking and escalation of commitment. Examining whether adopting the perspective of different stakeholders affects individuals' decisions to delay launching a product with sever defects that may lead to fatalities, Lee et al. (2018) predict and find that individuals prompted to adopt the perspective of a potential victim harmed by the product are more likely to delay prematurely launching the product than individuals adopting the perspective of a shareholder. In a group setting, Wieber et al. (2015) show that groups considering a reinvestment decision from the perspective of a neutral observer delay fully funding a project that is experiencing development difficulties.³¹ I extend these findings by examining perspective-taking

³¹ Specifically, participants in Wieber et al. (2015) assumed the role of a local council responsible for overseeing a kindergarten project and indicated the amount of funding they would provide to the project at different phases of development. Participants were able to provide full funding, partial or no funding at all, and were told that any unspent funds could be used to fund other projects. Participants were not, however, provided with updated economic projections of the current (struggling) project, nor any alternative projects, that would enable them to assess the viability of continuing versus abandoning.

as a strategy to enhance managers' use of accounting information for assessing the viability of continued investment and reducing escalation at the individual-level.³²

Given the well-established finding in the escalation literature indicating that managers not responsible for an initial investment are less willing to continue supporting it, individuals adopting the perspective of an outside manager, as Staw and Ross (1987b) propose, should draw their attention away from the ego threat of negative feedback, and diminish both their justification and reputation concerns. Based on prior psychology research demonstrating that perspective-taking reduces individuals' felt distress regarding negative experiences and improves their consideration of the broader context (Kross and Ayduk 2011; Kross and Grossmann 2012; Staudinger and Glück 2011), I expect that prompting managers to consider the perspective of an outside manager will reduce the ego-threat associated with dissonant investment feedback and improve their assessment of the available alternatives. When managers have the opportunity to invest in an alternative project that offers the potential for higher returns, I expect that managers engaging in perspective-taking will be better able to assess the prudence of continuing to support an underperforming investment and the viability of an alternative investment. Stated formally, I hypothesize the following:

H2: Managers prompted to consider an outside manager's perspective will be less likely to escalate their commitment to an underperforming project than managers not so prompted.

³² While some research indicates the magnitude of escalation between individuals and groups does not differ (Bazerman et al. 1984), other studies suggest a more complex relationship exists. The diffusion of responsibility among group members for a project's lack of success may attenuate the threat of negative feedback, resulting in reduced escalation (Whyte 1991); however, groups have a tendency to exhibit greater optimistic bias by focusing on factors indicating successful completion (Buehler et al. 2005), and exacerbate individual level biases (Argote et al. 1986), including escalation (Whyte 1993). Given the complex relationship between escalation and groups, I extend Wieber et al. (2015) by examining whether a perspective-taking prompt shown to be effective for groups reduces the escalation of commitment at the individual level.

2.5 Narcissism and Perspective-taking

With theoretical models indicating that perspective-taking is a precondition for empathy (Batson and Ahmad 2009; Marshall et al. 1995; Vreeke and van der Mark 2003) and research showing that narcissists lack empathy and neglect to consider others' perspectives (Böckler et al. 2017; Gurtman 1992; Wai and Tiliopoulos 2012; Watson and Morris 1991), recently research has begun to examine the interaction of perspective-taking and narcissism. In psychology, Giacomini and Jordan (2014) find that individuals who consider the perspective of a distressed other (e.g., car crash victim) report increased empathy and reduced narcissism. Hepper et al. (2014) replicate these findings and also note that perspective-taking prompts increase narcissists' empathy to a greater extent than in non-narcissists (Hepper et al. 2014), presumably because non-narcissists are more likely to spontaneously exhibit greater empathy.

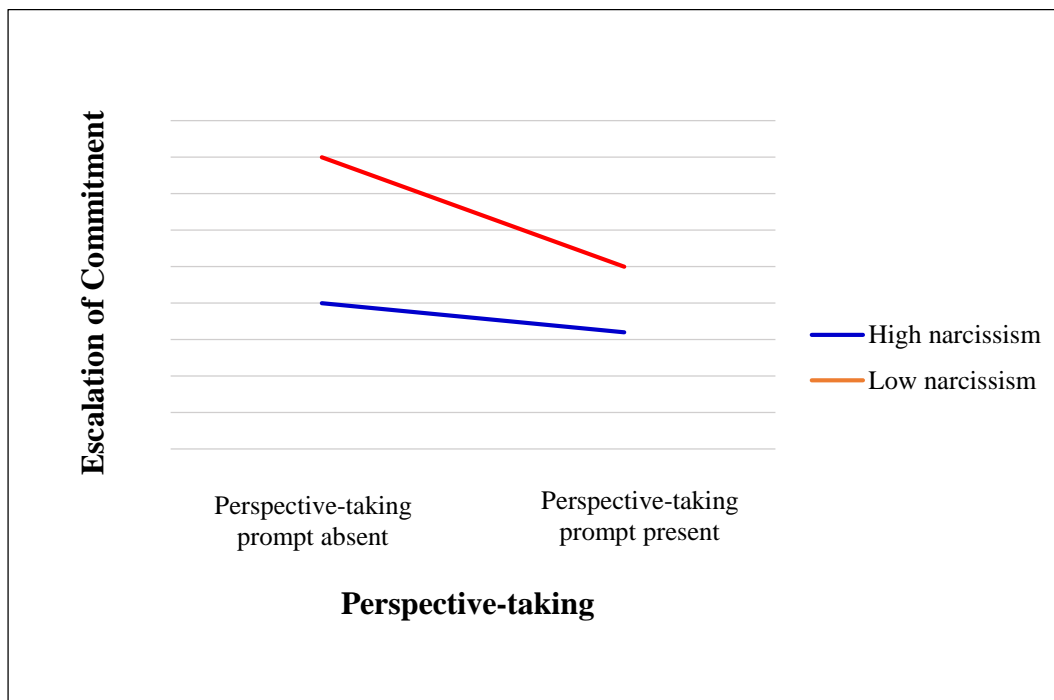
While this research suggests that non-narcissists are more likely to naturally engage in perspective-taking, prior research has not examined non-narcissists' perspective-taking tendencies when their ego is threatened. Since negative investment feedback is expected to trigger non-narcissists' self-justification needs and motivate them to protect their reputation from possible damage, it is unclear whether or not they spontaneously consider reinvestment decisions from another's perspective. Appealing to Griffiths et al.'s (2016) framework, prompting non-narcissists to consider an outside manager's perspective should reduce their commitment to self-focused goals (i.e., reputation concern) allowing other goals to emerge, such as acting in the best interests of shareholders and selecting investments with higher expected returns. Based on my predictions in Hypothesis 1, I expect that narcissists are less likely to naturally engage in escalation than are non-narcissists and therefore I expect that non-narcissists will respond most

markedly to a perspective-taking prompt and exhibit reduced escalation tendencies. Stated formally, I hypothesize the following:

H3: Narcissism interacts with perspective-taking such that prompting managers to adopt the perspective of an outside manager will reduce the escalation of commitment of non-narcissists to a greater extent than that of narcissists.

Figure 3 below depicts the expected theoretical relationships included in hypotheses 1, 2, and 3.

Figure 3
Predicted Model of Hypotheses 1, 2 and 3



Chapter 3: Research Method

3.1 Overview

To test my hypotheses, I conducted a 2 (*narcissism*: high or low) x 2 (*perspective-taking*: prompt present or prompt absent) x 2 (*project performance*: adequately performing or under-performing) between-subjects experimental design.³³ This study was conducted online in two phases. In Phase 1, participants' narcissism was measured. In Phase 2, *perspective-taking* and *project performance* were manipulated between-subjects as participants completed a series of investment tasks. My dependent variable is participants' reinvestment decision.

This chapter is organized as follows. Section 3.2 provides details of the participants. Section 3.3 describes the experimental task performed by participants. Sections 3.4 and 3.5 details the independent and dependent variables, Section 3.6 discusses covariates and demographic variables and 3.7 describes validation of the experimental materials.

3.2 Participants

To target the population of interest, individuals currently in a management role, I recruited managers from Prolific, an online crowdsourcing platform.³⁴ Similar to Amazon's Mechanical Turk or CrowdFlower, Prolific enables researchers to access a large pool of participants, however Prolific is designed for academic research and has an advantage of including a wide variety of pre-screening options that researchers can use to target potential candidates. Relative to other online platforms, Prolific's participants tend to be more diverse,

³³ As discussed in Section 3.4.1, the *Project performance* manipulation is adapted from Ang and Cheng (2016). In this study, the manipulation provides a baseline for examining managers' escalation tendencies. Specifically, theory suggests that individuals receiving positive feedback do not experience dissonance and, thus, their continued support of an investment is not expected to interact with the other independent variables. While this manipulation is not necessary to examine managers' escalation of commitment, it is intended to eliminate possible alternative explanations.

³⁴ Bonner et al. (2000) and Libby et al. (2002) emphasize the importance of matching participants with the experimental task. While participants in this study are not required to possess special skills or knowledge, students recruited to participants in an on-site laboratory study did not possess narcissism scores with sufficient variance.

honest, and naïve and produce higher quality data (Peer et al. 2017). For social and economic science experiments, Prolific is considered superior to other online platforms (Palan and Schitter 2018) and has been used to recruit participants in the areas of law (Irvine et al. 2018), behavioural economics (Marreiros et al. 2017) and accounting (Davern et al. 2019; Murphy et al. 2019; Owens et al. 2019; Rennekamp et al. 2018). Using Prolific’s pre-screening data, I recruited managers that currently reside in Canada, the United States or the United Kingdom and, in Phase 1, I validated the management role pre-screening criterion by asking participants to indicate their current work role.³⁵ While individuals in this study were not required to possess special skills or knowledge to complete the experimental task, recruiting through Prolific enabled me to access the population of interest in a cost effective and timely manner, and strengthen the external validity of the study.

As mentioned in Section 3.1, I conducted the experiment in two phases. Of the 375 individuals who initiated Phase 1, 81 failed to select a management role as their current work position and another two participants withdrew from the study, leaving a sample of 292 participants.³⁶ Of the individuals who completed Phase 1, 273 returned for Phase 2. To ensure that participants were attending to the experimental materials, Phase 2 contained two attention check questions.³⁷ Participants who failed either question were redirected out of the study and received reduced remuneration.³⁸ Of the 273 returning participants, 13 failed the first attention

³⁵ When creating a Prolific account, individuals respond to a various demographic questions which researchers can use to target participants with specific attributes. To validate the management role pre-screening criterion, I included the Industry Role question, verbatim, from Prolific’s demographic questionnaire.

³⁶ Participants may have failed the management role validation for a variety of reasons such as no longer being in a management role or simply neglecting to select a management position from the available options. According to Prolific, individuals may withdraw from a study for a variety of reasons, such as experiencing technical difficulties or deciding to no longer take part. In this study, participants who withdrew received partial remuneration equal to the proportion of the study they competed.

³⁷ In Section 4.3 I discuss the attention checks in detail.

³⁸ Consistent with Rennekamp et al. (2015), participants in this study were not provided with performance based pay. Theory suggests that managers’ escalation tendencies are driven by decision biases and not due to a lack of

check, 25 failed the second attention check, and seven individuals withdrew from the study, resulting in an attrition rate of 39.2% (147/375).³⁹ Consequently, statistical analysis is based on a final sample of 228 participants. Table 1 summarizes the sample reduction process.

Table 1
Reduction in Sample Size

| | Number of Participants |
|---|---------------------------|
| Initial Phase 1 sample in Prolific | 375 |
| Less: Those who did not report being in a management position | (81) |
| Less: Those who withdrew participation from Phase 1 | (2) |
| Complete Phase 1 responses | <u>292</u> |
| Returned for Phase 2 | 273 |
| Less: Those who failed attention check #1 | (13) |
| Less: Those who failed attention check #2 | (25) |
| Less: Those who withdrew participation from Phase 2 | (7) |
| Complete Phase 2 responses | <u>228</u> |

To estimate the number of participants needed, I used G*Power, a valid and reliable statistical analysis program for use in the social and behavioral sciences (Faul et al. 2007).

Without clear guidance from prior research, I assumed a medium effect size of .25 and estimated

effort and, as suggested by Libby et al. (2002), performance based pay does not reduce decisional biases. Prolific requires researchers to provide participants a minimum remuneration of £5.00 per hour which may be prorated based upon the length of the survey. Given the unique criteria for this study (i.e., managers) and the estimated completion time (20 minutes for Phase 1 and 30 minutes for Phase 2), participants received £2.75 (approximately \$4.81 CAD) for Phase 1 and £4.50 (approximately \$7.88 CAD) for Phase 2. Participants who failed either attention check were re-directed out of the study and received reduced remuneration of £1.00. On average, participants completed Phase 1 in 12.4 minutes and Phase 2 in 26.6 minutes.

³⁹ Attrition rates for accounting studies conducted using Prolific's platform vary. Murphy et al. (2019) recruited 300 individuals and subsequently removed data of 15 participants who failed to meet the management experience criterion. An additional 116 participants were removed for failing manipulation or comprehension checks and for speeding through the experiment, resulting in an attrition rate of 44% (131/300). Davern et al (2019) recruited 180 participants with management experience, however they do not report that they validated the screening criterion. In that study, six participants withdrew and another seven provided nonsensical responses, resulting in a final sample of 167 and an attrition rate of 7%. Rennekamp et al. (2018) recruited 152 participants and subsequently removed 12 for providing low-quality responses or proceeding through the experimental materials particularly fast or slow, resulting in an attrition rate of 8% (12/152).

that 210 participants would be required to yield power of .95, resulting in 27 participants per cell.⁴⁰

3.3 Experimental Task

As I mentioned previously, this study was conducted in two phases, both of which were conducted online using Qualtrics. In Phase 1, participants completed various personality tests. In Phase 2, participants completed a series of investment decisions. To reduce the risk that completing the personality tests would inadvertently influence individuals' investment decisions, participants were invited to participate in Phase 2 approximately one week after completing Phase 1. Figure 4 summarizes the flow of the experiment and Appendix B includes the experimental materials shown to participants.

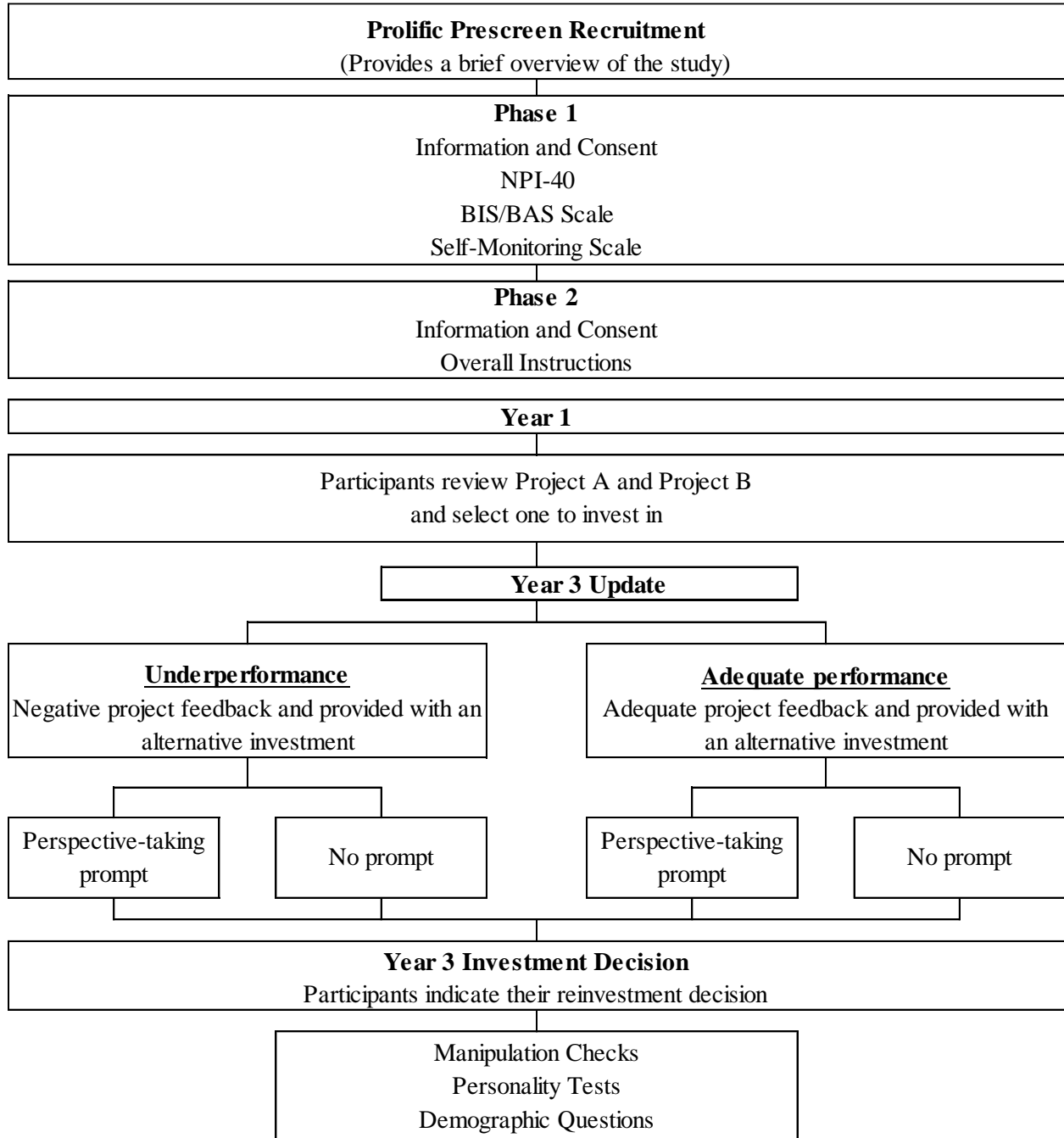
3.3.1 Phase 1

In Phase 1, participants completed three personality tests: the NPI, Carver and White's (1994) Behavioral Activation System/Behavioral Inhibition System (BAS/BIS) scales, and Snyder and Gangestad's (1986) self-monitoring scale. To reduce spillover effects in which participants' responses to one personality test unintentionally affect their responses to subsequent tests, participants completed distractor tasks between each of the three personality tests.⁴¹ At the end of Phase 1, participants responded to a series of demographic questions and were thanked for their participation.

⁴⁰ In contrast, by assuming a large effect size of .40 or small effect size of .10, I would have required 84 participants or 1,309 participants, respectively.

⁴¹ Specifically, participants completed an estimation task in which they provided upper and lower limits to 6 questions, such as "What is the average weight of the adult blue whale, in pounds?" and an anagram task containing 10 five-letter words. In each task, participants had two minutes to respond before the screen automatically advanced.

Figure 4
Experimental Flow (adapted from Ang and Cheng 2016)



3.3.2 Phase 2

In Phase 2, participants were assigned to the role of a Project Manager for a hypothetical company, Novel-Tek Company (“Novel-Tek”), a manufacturer and marketer of innovative music and audio technologies. Background information provided to all participants described the company as in the process of developing a new earbud design and eager to move from the research and development stage into production. In their role as the Project Manager overseeing the earbud project, participants were asked to read through descriptions of two earbud designs and select one for the company to produce.⁴² The first earbud design is described as being compact and light with a relatively short battery life. In contrast, the second earbud design is described as having a relatively long battery life yet is larger than the first. Participants were also told that users are highly sensitive to product functionality, such as size, shape, and battery life, and were provided with financial information regarding the earbud project.⁴³ Specifically, participants were informed that either earbud design required an initial investment of \$1 million and was expected to have annual net cash flows of \$360,000 for five years. The case materials state that the company uses Internal Rates of Return (IRR) to evaluate projects and prefers all project IRR’s to be 15% or higher. Based on projections, both earbud designs are expected to have the same IRR of 23.5%, which is higher than the participants’ portfolio of investments of 17%. At that point, participants were asked to select the earbud design Novel-Tek would produce.

⁴² This design choice mimics Seybert (2010) in which participants must select between two television screen designs and has been adapted with permission from the author. While some researchers simply tell participants that they were responsible for making an initial investment (e.g., Ang and Cheng 2016), I opted to have participants select the earbud design to be produced to heighten their sense of commitment to the project. This design choice is consistent with Staw’s (1976) seminal escalation research and, more recently in accounting, with Seybert (2010).

⁴³ The financial information contained in the experimental materials was adapted from Ang and Cheng (2016) and was used with permission. Ang and Cheng (2016) examine and find that managers who self-certify that they have considered all alternatives are less likely to escalate their commitment to underperforming projects.

After making their investment decision, participants were provided with a project update stating that three years had passed since the initial investment. At that point, the project performance manipulation was introduced. Specifically, half of the participants were informed that the earbud project had been experiencing declining net cash flow arising from implementation problems that resulted in a revised IRR of 14%. In contrast, the other half were told that the earbud project performed as expected and had an expected IRR of 23.5%. All participants were provided with two options: (1) continue with the earbud project, or (2) terminate the earbud project and invest in an alternative project with an expected IRR of 17%.⁴⁴ Consistent with Ang and Cheng (2016), all participants were notified that only they have access to the updated project information and that terminating the earbud project may negatively impact their reputation as a successful project manager. To counterbalance the reputation cue, participants were also informed that managers with high portfolio IRR's would be viewed favourably.

After reading the updated project information, perspective-taking was manipulated by prompting half of the participants to consider the perspective of an outside manager. The other half of the participants were not so prompted. To address the possibility that the perspective-taking prompt would slow down participants' decision-making processes and affect their reinvestment decision, independent of adopting an outside managers' perspective, all participants were asked to spend a few minutes contemplating the reinvestment decision and sharing their thoughts by typing them into a textbox. Participants then indicated their willingness to continue with the earbud project and concluded the study by completing a post experimental questionnaire. Specifically, participants were asked to complete additional personality tests,

⁴⁴ Providing participants with updated expected IRR's helps to remove the effects of participants' risk perceptions.

manipulation check questions, and provide responses to demographic questions.⁴⁵ Factors, such as personal responsibility for the initial investment, sunk costs and the degree of project completion, have been shown to influence managers' escalation of commitment. To control for these variables, I held them constant across conditions for all participants.

3.4 Independent Variables and Process Measures

3.4.1 Independent Variables

Narcissism

I measured participants' narcissism using the Narcissistic Personality Inventory (NPI; Raskin and Terry 1988), a 40-item forced choice scale having discriminant and predictive validity capturing non-clinical narcissism and is the most commonly used measure of subclinical narcissism (Brown et al. 2009; Campbell and Miller 2011; Chatterjee and Hambrick 2007; Miller et al. 2014).⁴⁶ Using a mean split of participants' NPI scores ($M = 12.50$, $SD = 7.67$), I classified each participant as having high or low narcissism.⁴⁷

While the factor structure of the NPI has been questioned (Brown et al. 2009; Corry 2008; Emmons 1984; Emmons 1987), Raskin and Terry (1988) provide support for seven subscales: self-sufficiency, superiority, authority, exhibitionism, vanity, exploitativeness, and entitlement. While I do not formalize any predictions regarding these subscales and escalation, using the NPI enables me to conduct exploratory analysis regarding facets underlying narcissism that may differentially affect managers' escalation decisions.

⁴⁵ For personality tests, participants were asked to complete the 16-item Narcissistic Personality Inventory (NPI-16; Ames et al. 2006), de Cremer and Tyler's (2005) Reputation Concern Scale, Meertens et al.'s (2008) risk propensity scale, Crowne and Marlowe's (1960) social desirability scale, and Schwarzer and Jerusalem's (1979) general self-efficacy scale (GSE) (1995 English translation).

⁴⁶ In this study, I examine "normal" narcissism and not Narcissistic Personality Disorder (NPD). While there are overlaps between these two constructs (Miller et al. 2009), NPD is typically diagnosed by trained psychologists or psychiatrists. In contrast, the NPI measures "normal" narcissism (Pincus and Lukowitsky 2010).

⁴⁷ In footnote 69, I discuss the rationale for using a mean split based on participants' NPI score in detail.

Perspective-taking

To manipulate *perspective-taking*, I prompted half of the participants to adopt the perspective of an outside manager and consider the following question: “If I took over this job for the first time today and found this project going on, would I support it or get rid of it?”⁴⁸ To reinforce the manipulation, participants were asked to re-read the question to themselves, silently repeating it, and then typing it twice into text boxes provided in the case materials.⁴⁹ The other half of the participants were not so prompted and simply proceeded with the study.

Project Performance

Since participants who receive neutral feedback would not experience dissonance, their reinvestment decision does not constitute escalation. To establish a baseline for comparing participants’ commitment to a project and their willingness to switch to an alternative investment, consistent with Ang and Cheng (2016),⁵⁰ I informed half of the participants in the project update information that the earbud project they initially selected had maintained a 23.5% IRR and was performing adequately (i.e., as expected). In contrast, the remaining participants were told that implementation problems caused net cash flows to decline, resulting in an expected IRR of 14%. Participants in all conditions were informed that they could terminate the earbud project and use the remaining funds to invest in an alternative project, a headphone project, with an expected IRR of 17%. Thus, for participants who received negative feedback, the earbud project’s expected IRR fell below the manager’s portfolio IRR, the firm’s

⁴⁸ This prompt is adopted verbatim from Staw and Ross (1987b). The authors suggest that prompting managers to adopt an “outside manager’s” perspective is a mechanism to reduce manager’s escalation tendencies.

⁴⁹ These instructions are consistent with those provided to participants in Wieber et al. (2015).

⁵⁰ The project update information provided to participants, including the financial information, was adapted from Ang and Cheng (2016) and was used with permission.

recommended minimum IRR, and the IRR of an alternative project. A summary of the IRR's is shown in Table 2.

Table 2
Project IRRs contained in the case materials

| | | Expected IRR |
|---------------------|---|--------------|
| Beginning of Year 1 | Portfolio of investments (excl. the earbud project) | 15% |
| Beginning of Year 1 | Earbud project | 23.5% |
| Year 3 | Earbud project – Adequately performing group | 23.5% |
| Year 3 | Earbud project – Underperforming group | 14% |
| Year 3 | Headphone project – all conditions | 17% |

While this condition is not necessary to test the hypotheses, it helps to establish participants' reinvestment tendencies in the absence of negative feedback.

3.4.2 Process Variables

Approach/Avoidance Orientation

Since theory suggests that narcissists' relatively high approach/low avoidance orientation influences their escalation tendencies, I measured participants' relative orientation using Carver and White's (1994) BAS/BIS scales, the most widely used measure of individuals' approach and avoidance orientations (Reuter et al. 2015) that has been used in both psychology (e.g., Elliot and Thrash 2010; Farrell and Walker 2019) and accounting research (Dworkis 2013). The BAS/BIS is a 20-item scale containing four subscales – one BIS subscale and three BAS subscales.⁵¹ The BIS subscale is comprised of seven statements measuring an individual's sensitivity to undesirable outcomes (e.g., avoiding punishment).⁵² In contrast, the BAS is comprised of three subscales (Reward Responsiveness, Drive and Fun Seeking), each measuring an individual's

⁵¹ The BAS/BIS scale includes 4 filler items for a total of 24-statements. Participants' responses to the filler items are excluded from statistical analysis.

⁵² Heubeck et al. (1998) find support that the BIS is a 2-factor model reflecting fear and anxiety, however few researchers distinguish between these factors in either theory development or statistical analysis.

sensitivity to desirable outcomes (e.g., approaching rewards). While prior research finds support for a 3-factor BAS model (Cogswell et al. 2006; Gray et al. 2016; Heubeck et al. 1998; Jorm et al. 1998; Leone et al. 2001) suggesting that each subscale may be analyzed separately, there is also support for a single factor BAS model (Heubeck et al. 1998; Jorm et al. 1998; Vandeweghe et al. 2016). Thus, researchers commonly collapse the three BAS subscales into a single measure of approach orientation (e.g., Dworkis 2013; Elliot and Thrash 2002; Elliot and Thrash 2010; Farrell and Walker 2019; Foster and Trimm IV 2008).

Other Measures

Prior theory suggests that individuals with a relatively high avoidance orientation are more sensitive to reputation threats and, thus, are more likely to escalate. To gauge individual's reputation concern, I used three measures. First, to assess their overall tendency to monitor their behaviour in the presence of others (i.e., trait-level reputation concerns), in Phase 1, participants completed Snyder and Gangestad's (1986) self-monitoring scale.⁵³ Second, to assess participants reputation concern after completing the reinvestment decision (i.e., state-level reputation concern), participants were asked to indicate the extent to which they felt: (1) their reputation would be damaged by switching projects, and (2) their future career would be damaged by switching projects.⁵⁴ To explore participants' rationale for their reinvestment decision, participants were asked to indicate the extent to which they felt: (1) loyal to the earbud project, (2) guilty by abandoning the earbud project, and (3) the likelihood that the project they selected would be successful.⁵⁵ While loyalty, success and guilt may affect managers' escalation, theory does not suggest that they impact the relationship between narcissism and escalation.

⁵³ Prior psychology research uses Snyder and Gangestad's (1986) self-monitoring scale to capture reputation concern (e.g., Cavazza et al. 2015).

⁵⁴ These two reputation concern questions were adopted from Seybert (2010).

⁵⁵ These three items (loyalty, guilt and success) were adopted from Ronay et al. (2017).

While prior research finds that narcissists tend to be more risk tolerant (Brockner 1992; Campbell, Goodie, et al. 2004; Schoorman et al. 1994), it is unclear whether they perceive continuing with the earbud project is riskier than switching to an alternative investment. To probe whether individuals' risk-taking inclinations affected their reinvestment decision, participants were asked to complete a risk propensity scale (Meertens and Lion 2008).⁵⁶ Since participants' narcissism was measured in Phase 1, I included the NPI-16 (Ames et al. 2006) in Phase 2 to assess participant's narcissism at the time of the study's completion. The NPI-16 is a shortened version of the NPI-40 that has discriminant and predictive validity and is appropriate for settings in which time pressure and participant fatigue are concerns (Ames et al. 2006).

To explore whether other factors may have influenced individuals' reinvestment decision, participants were asked to complete Crowne and Marlowe's (1960) social desirability scale and Schwarzer and Jerusalem's (1979) general self-efficacy scale (GSE). Social desirability bias is the propensity for individuals to respond in a manner in which they are viewed favourably. Steinkühler et al. (2014) suggest that providing participants with negative project feedback may trigger social desirability concerns and Watson and Morris (1991) find a positive association between social desirability and narcissism. Taken together, this suggests that social desirability concerns may influence narcissists' responses. Self-efficacy is the belief an individual holds that he or she can attain a specific performance goal and may be used to predict an individual's persistence with a given course of action (Bandura 1977). Since prior research finds a positive association between narcissism and self-efficacy (Brookes 2015), theory suggests that narcissists' may increase their escalation due to their belief that they can positively affect the

⁵⁶ To address the effects of participants' risk perceptions, all participants were provided with revised expected IRR's for both the earbud project and the alternative headphone project in the Year 3 project update. The risk propensity scale included in the post-experimental questionnaire is included as a measure of participants generalized risk-taking tendencies.

outcome of the earbud project. By measuring participants' social desirability bias and generalized efficacy, I am able to examine their impact on managers' escalation tendencies.

3.5 Dependent Variable

The main variable of interest was the participants' willingness to continue funding the underperforming earbud project, labeled *Reinvest*, and was measured using a 10-point scale, with 1 = "Definitely terminate the Earbud Project" and 10 = "Definitely continue the Earbud Project". Thus, higher scores indicate a greater willingness to engage in escalation. Prior to making their reinvestment decision, participants were asked to type a minimum of 5 lines into a text box to share their thoughts. I included these instructions to encourage individuals to think carefully about the reinvestment decision and to provide insight into their decision-making process.

3.6 Covariates and Demographics

To test for the possible effects of other determinants of participants' reinvestments decision, I collected demographic information. While I expect that the effects of demographic conditions should be reasonably controlled through random assignment of participants to conditions, factors that correlate with narcissism, such as age (Twenge and Campbell 2008) and gender (Grijalva et al. 2015), may differ between the high and low narcissism groups. In addition to age and gender, participants provided information regarding their education, work experience and whether they own a set of wireless earbuds.

3.7 Validation of the Experimental Materials

This study was designed to be conducted online using Qualtrics. To assess the experimental materials for clarity and the effectiveness of the perspective-taking manipulation,⁵⁷ twenty-six undergraduate students enrolled in an undergraduate tax course participated in a pilot

⁵⁷ Ang and Cheng (2016) demonstrate the effectiveness of the project performance manipulation, thus I did not validate it during pre-testing.

test in exchange for \$15 CAD. To further refine the experimental materials for clarity, I conducted verbal protocols with ten Masters of Accounting students, recruited from a large Canadian university, in which they proceeded through Phase 2 of the study and talked aloud about their observations.⁵⁸ Based on feedback from the students, I revised the study and recruited Qualtrics panel participants holding an MBA to participate in a pilot test.⁵⁹ In total, 40 responses were collected.⁶⁰ Results from the pretest suggested that the perspective-taking manipulation was ineffective and many participants were speeding through the experimental materials. To strengthen the perspective-taking manipulation, I modified the materials to include the perspective-taking manipulation instructions from Wieber et al. (2015), described in Section 3.4.1.⁶¹

⁵⁸ Participants were free to proceed at their own pace and encouraged to talk only when they fell silent for an extended period of time or when I needed to clarify their comments. In exchange, they received \$20 CAD.

⁵⁹ Specifically, I enriched the description of Novel-Tek's audio technology while condensing the background information to enhance its readability.

⁶⁰ On average, Qualtrics panel participants completed Phase 1 and Phase 2 in 10.4 minutes and 20.6 minutes, respectively, and received \$9 USD for completing both phases (Phase 1 = \$4, Phase 2 = \$5).

⁶¹ Pilot testing results suggested that the undergraduate participants lacked sufficient variance in narcissism to assess the impact on escalation of commitment. In contrast, the Qualtrics sample population exhibited sufficient variance in narcissism; however, the perspective-taking manipulation was ineffective. I subsequently modified the experimental materials to strengthen the manipulation by asking participants to re-read the perspective-taking prompt and type it into a textbox and subsequently recruited Prolific participants for testing the main hypotheses.

Chapter 4: Results

4.1 Overview

In this chapter, I provide the results of the experiment described in Chapter 3. Details regarding participants are presented and discussed in Section 4.2 followed by analyses of attention checks, manipulation checks, covariates, and correlations in Sections 4.3, 4.4, 4.5, and 4.6 respectively. I then discuss tests of the main hypotheses in Section 4.7 and the results in Section 4.8. I conclude the chapter with exploratory analyses performed on the data in Section 4.9.

4.2 Participants

Two hundred twenty-eight participants completed both phases of the study, 53 percent of which were male. Participants varied between the ages of 19 and 67 years with a mean age of 37.18 ($SD = 10.22$). On average, participants had 16.55 years of work experience, and had completed one accounting and one finance course. Seven percent (17/228) of participants had an MBA and, importantly, 32.5% (74/228) report having experience making project continuation decisions similar to the one presented in the case materials.

Random assignment appears to have been successful as there are no significant differences in age, years of experience, or accounting and finance education across the manipulated conditions (all $p > .10$, two-tailed). Additionally, chi-squared tests of independence revealed no significant differences among participants' gender, education or type of work experience across the manipulated conditions (all $p > .10$).⁶² Table 3 provides a summary of participant demographics for the full sample and by project performance group.

⁶² Participants indicated whether or not they have auditing, accounting or finance work experience, and whether or not they have been responsible for overseeing staff, adhering to a budget, and making either capital budgeting or project continuation decisions.

Table 3
Participant Demographics by Range, Number, Percentage, and Cumulative Percentage

| | Range | Full Sample [N = 228] | | | Project Performance: Adequately Performing [n = 114] | | | Project Performance: Underperforming [n = 114] | | |
|---------------------------------|---------|-----------------------|------------|--------------|--|------------|--------------|--|------------|--------------|
| | | Number | Percentage | Cumulative % | Number | Percentage | Cumulative % | Number | Percentage | Cumulative % |
| Management Role | Junior | 38 | 16.7 | 16.7 | 21 | 18.4 | 18.4 | 17 | 14.9 | 14.9 |
| | Middle | 113 | 49.6 | 66.2 | 56 | 49.1 | 59.2 | 57 | 50 | 64.9 |
| | Upper | 77 | 33.8 | 100 | 37 | 32.5 | 100 | 40 | 35.1 | 100 |
| Gender | Male | 121 | 53.1 | 53.1 | 54 | 47.4 | 47.4 | 67 | 58.8 | 58.8 |
| | Female | 107 | 46.9 | 100 | 60 | 52.6 | 100 | 47 | 41.2 | 100 |
| Age | 19 – 29 | 50 | 21.9 | 21.9 | 26 | 22.8 | 22.8 | 24 | 22.8 | 22.8 |
| | 30 – 39 | 104 | 45.6 | 67.5 | 47 | 41.2 | 64 | 57 | 50 | 64 |
| | 40 – 49 | 42 | 18.4 | 85.6 | 28 | 24.6 | 88.6 | 14 | 12.3 | 88.6 |
| | 50 – 59 | 24 | 10.5 | 96.5 | 9 | 7.9 | 96.5 | 15 | 13.2 | 96.5 |
| | 60 – 67 | 8 | 3.5 | 100 | 4 | 3.5 | 100 | 4 | 3.5 | 100 |
| Capital Budgeting Experience | Yes | 89 | 39 | 39 | 43 | 37.7 | 37.7 | 46 | 40.4 | 40.4 |
| | No | 139 | 61 | 100 | 71 | 62.3 | 100 | 68 | 59.5 | 100 |
| Auditing work experience | Yes | 27 | 11.8 | 11.8 | 13 | 5.7 | 5.7 | 14 | 6.1 | 6.1 |
| | No | 201 | 88.2 | 100 | 215 | 94.3 | 100 | 214 | 93.9 | 100 |
| Accounting work experience | Yes | 48 | 21.1 | 21.1 | 21 | 9.2 | 9.2 | 27 | 11.8 | 11.8 |
| | No | 180 | 78.9 | 100 | 207 | 90.8 | 100 | 201 | 88.2 | 100 |
| Finance work experience | Yes | 63 | 27.6 | 27.6 | 26 | 11.4 | 11.4 | 37 | 16.2 | 16.2 |
| | No | 165 | 72.4 | 100 | 202 | 88.6 | 100 | 191 | 83.8 | 100 |
| Experience overseeing staff | Yes | 203 | 89.0 | 89.0 | 105 | 46.1 | 46.1 | 98 | 43.0 | 43.0 |
| | No | 25 | 11.0 | 100 | 123 | 53.9 | 100 | 130 | 57.0 | 100 |
| Experience adhering to a budget | Yes | 154 | 67.5 | 67.5 | 78 | 34.2 | 34.2 | 76 | 33.3 | 33.3 |
| | No | 74 | 32.5 | 100 | 150 | 65.8 | 100 | 152 | 66.7 | 100 |

Table 3 continued

| | | Full Sample [N = 228] | | | Project Performance: Adequately Performing [n = 114] | | | Project Performance: Underperforming [n = 114] | | |
|--|-------|-----------------------|------------|--------------|---|------------|--------------|---|------------|--------------|
| | Range | Number | Percentage | Cumulative % | Number | Percentage | Cumulative % | Number | Percentage | Cumulative % |
| Experience with project continuation decisions | Yes | 74 | 32.5 | 32.5 | 41 | 36.0 | 36.0 | 33 | 28.9 | 28.9 |
| | No | 154 | 67.5 | 100 | 73 | 64.0 | 100 | 81 | 71.1 | 100 |

Since narcissism is a measured variable, participants were not randomly assigned to the high and low narcissism groups. To assess whether the participants' demographics differed between the high and low narcissism groups, I conducted one-way ANOVAs (untabulated) and found that participants in the high narcissism group tended to be younger and were more likely to have finance work experience despite having fewer years of general work experience than participants in the low narcissism group (all p -values $< .05$, two-tailed). They were also more likely to have completed finance courses and have been responsible for adhering to a budget and making capital investment decision than participants in the low narcissism group (all p -values $< .05$).

Since escalation of commitment is a response to negative feedback that triggers cognitive dissonance and justification needs, I expected that participants in the adequately performing group would continue to support the existing project as there would be no perceived dissonance. Thus, I split the data based on *Project performance* and reassessed whether participants' demographics differed between the high and low narcissism groups. Generally speaking, all inferences remain unchanged. In the adequately performing condition, responsibility for adhering to a budget and making capital investment decision were no longer significantly different between the high and low narcissism groups (both p -values $> .10$, two-tailed) whereas in the underperforming condition, finance related work experience and the number of finance courses taken were no longer significantly different between the high and low narcissism groups (both p -values $> .05$, two-tailed). I also conducted analysis to assess whether the demographic variables were correlated with the dependent variable. Results are presented and discussed in Section 4.5.

4.3 Attention checks

To ensure participants read and understood the experimental materials, I included two attention check questions in Phase 2.⁶³ As discussed in Section 3.2, participants who answer either question incorrectly were redirected out of the study and received reduced remuneration. For the first attention check question, after reading background information about the company, participants were asked to select the type of product Novel-Tek was planning to develop from three possible options.

For the second attention check question, after reading about each earbud design, participants were asked whether or not management would approve of the manager selecting a project with an IRR of 17%. As stated in Section 3.4.1, the case materials indicate that management prefers investments with a minimum 15% IRR. I included this attention check question to ensure that participants proceeding with the study recognize managements' preferences when making investment decisions. As discussed in Section 3.2, thirteen participants failed the first attention check question and twenty-five participants failed the second one.⁶⁴

4.4 Manipulation checks

After indicating their reinvestment decision, participants completed three manipulation check questions. To assess the effectiveness of the project performance manipulation, participants reported how well the earbud project was performing according to the Year 3 Project Update using a 10-point scale, with 1 = "Not Well At All (Earbud project IRR is below initial expectations)" and 10 = "Performing Well (Earbud project IRR is meeting initial expectations)".

⁶³ As recommended by Prolific, I included a third attention check question at the end of the study asking participants to select 'Disagree' from six possible options. Only one participant failed this check. Since passing this check question is not critical for this study and it was administered at the end of the study, data from this participant is included in all statistical analyses.

⁶⁴ In Phase 2's Information and Consent letter, I informed participants that they would encounter several mini quizzes that must be answered correctly in order to proceed with the study.

Results indicate that the manipulation was successful as there was a significant difference between groups ($F = 379.21, p < .001$). Specifically, participants in the adequately performing group indicated that the earbud project was performing well ($M = 8.51, SD = 1.91$) whereas participants in the underperforming group indicated that the earbud project was not ($M = 3.39, SD = 2.06$). Results are shown in Table 4.

Table 4
Project Performance Manipulation Check [N = 228]

Panel A: Descriptive Statistics

| Mean (std. dev.) n | Project performance | | |
|--|--------------------------|-----------------------|-----------------------|
| | Adequately performing | Under- performing | Overall |
| Year 3 Update Project Performance Perception | 8.51 (1.91) 114 | 3.39 (2.06) 114 | 5.95 (3.24) 228 |

Panel B: One-way ANOVA of Project Performance Perceptions with Project Performance

| <u>Source</u> | <u>df</u> | <u>F</u> | <u>p-value</u> |
|----------------------------|-----------|----------|----------------|
| <i>Project performance</i> | 1 | 379.21 | $p < .001$ |
| Total | 226 | | |

Notes:

Project performance is manipulated between-subjects. Adequately performing is when the Year 3 Update states that the IRR of the earbud project is as expected and Underperforming is when the Year 3 Update states that the IRR is lower than expected.

Year 3 update project performance perception is measured using a 10-point scale with 1 = Not well at all (IRR below expectations) and 10 = Performing well (IRR meeting initial expectations).

p-value is one-tailed based on the direction expected for the manipulation.

Consistent with Mayorga and Trotman (2016), I included two perspective-taking manipulation check questions designed to assess the effectiveness of the perspective-taking prompt. For the first manipulation check, participants indicated the extent to which they made their reinvestment decision from their own perspective or the perspective of an outside manager on a 10-point scale with 1 = “Own Perspective” and 10 = “Outside Manager’s Perspective”.

One-way ANOVA results indicate that participants in the “prompt present” condition were more likely to indicate that they made the reinvestment decision from the perspective of an outside manager ($M = 6.18$, $SD = 3.09$) than participants in the “prompt absent” condition ($M = 4.39$, $SD = 2.61$), however, results indicate that the data are non-normally distributed with skewness of $.079$ ($SE = .161$) and kurtosis of -1.27 ($SE = .321$). Additionally, Levene’s test results indicate unequal variances ($F(1, 226) = 7.14$, $p = .008$), thus, I can reject the null hypothesis of equal variances and conclude that there is a difference between the variances in the population. In response, I performed a log-10 transformation on participants’ manipulation check responses so that the data would yield homogeneous variances and conducted a one-way ANOVA on the transformed data.⁶⁵ As expected, participants in the prompt present condition were more likely to report adopting an outside manager’s perspective ($M = .70$, $SD = 0.33$) than participants in the prompt absent condition ($M = .55$, $SD = 0.32$) ($F = 13.38$, $p < .001$). Results from analyses using the untransformed and transformed data are shown in Table 5.

Table 5
Perspective-taking Manipulation Check [N = 228]

Panel A: Descriptive Statistics (untransformed data)

| Mean (std. dev.) n | Perspective-taking | | |
|--------------------------|-----------------------|-----------------------|-----------------------|
| | Prompt Absent | Prompt Present | Overall |
| Decision Perspective | 4.39 (2.61) 116 | 6.18 (3.09) 112 | 5.27 (2.99) 228 |

⁶⁵ While there is no general rule regarding data transformations to address kurtosis, log-transformations are commonly applied to data whose original numbers are positive (Howell 2012; McCune et al. 2002). Kurtosis of the transformed data is -0.644 ($SE = .321$).

Table 5 continued

Panel B: Descriptive Statistics (transformed data)

| Mean (std. dev.) n | Perspective-taking | | |
|--------------------------|---------------------|---------------------|---------------------|
| | Prompt Absent | Prompt Present | Overall |
| Decision Perspective | .55 (.32) 116 | .70 (.33) 112 | .62 (.33) 228 |

Panel C: One-way ANOVA of Decision Perspective with Perspective-taking (untransformed data)

| <u>Source</u> | <u>df</u> | <u>F</u> | <u>p-value</u> |
|---------------------------|-----------|----------|----------------|
| <i>Perspective-taking</i> | 1 | 22.35 | $p < .001$ |
| Total | 226 | | |

Panel D: One-way ANOVA of Decision Perspective with Perspective-taking (transformed data)

| <u>Source</u> | <u>df</u> | <u>F</u> | <u>p-value</u> |
|---------------------------|-----------|----------|----------------|
| <i>Perspective-taking</i> | 1 | 13.38 | $p < .001$ |
| Total | 226 | | |

Notes:

Perspective-taking is manipulated between-subjects. Prompt Present indicates that participants were prompted to consider an outside manager's perspective and Prompt Absent indicates that participants were not so prompted.

Decision Perspective is measured using a 10-point scale with 1 = Own perspective, 10 = Outside Manager's perspective

p-value is one-tailed based on the direction expected for the manipulation.

For the second perspective-taking manipulation check, participants were asked to indicate whether the case materials prompted them to consider the perspective of an outside manager (refer to Appendix B for the exact wording of the manipulation check question). Results show that 81.9% (95/116) of participants in the prompt absent group responded correctly and 88.4% (99/112) of participants in the prompt present group responded correctly. Taken together, results from both perspective-taking manipulation questions suggest that the manipulation worked well.

Since prior research finds perspective-taking is an effortful process that requires self-regulatory resources and subsequently impacts individuals' decision-making (Fennis 2011), participants in the prompt present group may have experienced ego-depletion which, in turn, affected their reinvestment decision. To address this possibility, I asked participants to report how difficult they found the study on a 10-point scale with 1 = "Not difficult at all" and 10 = "Very difficult". One-way ANOVA results (untabulated) indicate there is no statistically significant difference in reported difficulty between the *Perspective-taking* groups (prompt absent: $M = 3.58$, $SD = 2.26$; prompt present: $M = 3.81$, $SD = 2.36$), $F(1, 226) = .59$, $p = .443$. Thus, participants do not appear to find perspective-taking to be cognitively depleting.

4.5 Covariates

To account for the influence of possible covariates, I conducted analyses to examine the correlations among the dependent variable and various demographic variables. As mentioned in Section 4.2, I do not expect participants in the adequately performing group to experience dissonance. Thus, their commitment to the earbud project does not constitute escalation of commitment. To examine whether the demographic variables are correlated with participants' escalation decisions, I split the data based on *Project performance* and examined correlations separately for each group (untabulated).

In the adequately performing group, I found that the dependent variable *Reinvest* was significantly negatively correlated with whether participants own earbuds (*Own_earbuds*) ($r = -0.22$, $p = .018$), however *Own_earbuds* was not significantly correlated with *Perspective-taking* ($r = -0.05$, $p = .566$) nor *Narcissism* ($r = 0.18$, $p = .052$). Thus, while *Own_earbuds* may influence participants' commitment to the earbud project, it is not a confounding factor (i.e., correlated with both the dependent variable and independent variable).

In the underperforming group, results indicate that *Reinvest* was significantly negatively correlated with *Age* ($r = -0.21, p = .025$) and experience with project continuation decisions (*Project_experience*) ($r = -0.19, p = .039$). *Reinvest* was significantly positively correlated with *Gender* (coded as 1 = Male and 2 = Female; $r = 0.22, p = .017$) and *Own_earbuds* ($r = 0.21, p = .027$).⁶⁶ Again, I examined whether those demographic variables were also correlated with the independent variables and found that *Age* was significantly negatively correlated with *Reinvest* ($r = -0.21, p = .025$) and *Narcissism*, ($r = -0.25, p = .006$). This suggests that *Age* is a potential confounding factor and, therefore, I included *Age* as a control variable in the main hypotheses tests.

To assess the balance of the covariates between the groups, I conducted chi-squared tests of independence on the data, split by *Project performance*. In the adequately performing condition, between the *Perspective-taking* groups, results indicate that there are no significant differences in *Gender* ($\chi^2(1) > .04, p = .843$), *Project experience* ($\chi^2(1) > .53, p = .468$), or *Own_earbuds* ($\chi^2(1) > .34, p = .562$). In the underperforming condition, between the *Perspective-taking* groups, results indicate that there are no significant differences in *Gender* ($\chi^2(1) > .001, p = .973$), *Project experience* ($\chi^2(1) > .83, p = .361$), or *Own_earbuds* ($\chi^2(1) > .11, p = .738$).

Using a mean split based on participants NPI scores ($M = 12.50, SD = 7.67$), results indicate that the differences in covariates between the high and low *Narcissism* groups are not statistically significant (Adequately performing: *Gender*: $\chi^2(1) > .25, p = .619$; *Project experience*: $\chi^2(1) > .16, p = .689$; *Own_earbuds*: $\chi^2(1) > .86, p = .353$; Underperforming: *Gender*: $\chi^2(1) > 2.61, p = .106$; *Project experience*: $\chi^2(1) > 1.22, p = .270$; *Own_earbuds*: $\chi^2(1) > 1.38, p =$

⁶⁶ Consistent with prior research, I find that younger participants and women are more likely to engage in escalation of commitment (Lam and Ozorio 2013, Strough et al. 2008).

.240).⁶⁷ Based on this analysis, I find that *Gender*, *Project experience* and *Owning earbuds* do not differ between the *Perspective-taking* groups and between the *Narcissism* groups, however, I include those as well as *Age* in my tests of hypotheses to improve the explanatory power of the tests. As previously mentioned, differences in *Gender* and *Years of experience* are non-significant across manipulated conditions. Descriptive statistics of potential covariates are reported in Table 6.

Table 6
Descriptive Statistics for Potential Covariates

| Variable | Full Sample (N = 228) | | Underperforming Group (n=114) | | Adequately Performing Group (n=114) | |
|-------------------|--------------------------|---------|----------------------------------|---------|--|---------|
| | Mean | Std Dev | Mean | Std Dev | Mean | Std Dev |
| <i>Age</i> | 37.18 | 10.215 | 37.32 | 10.243 | 37.04 | 10.230 |
| <i>Gender</i> | 1.47 | 0.500 | 1.41 | 0.494 | 1.53 | 0.502 |
| <i>Yrs_exp</i> | 16.55 | 10.182 | 16.79 | 10.952 | 16.31 | 9.385 |
| <i>BIS</i> | 20.52 | 4.198 | 20.05 | 4.497 | 20.99 | 3.839 |
| <i>BAS</i> | 39.29 | 6.120 | 38.97 | 6.071 | 39.60 | 6.180 |
| <i>SM</i> | 8.54 | 3.776 | 8.25 | 4.013 | 8.83 | 3.517 |
| <i>Reputation</i> | 3.61 | 0.760 | 3.55 | 0.717 | 3.66 | 0.802 |
| <i>Risk</i> | 3.79 | 1.378 | 3.83 | 1.476 | 3.76 | 1.279 |
| <i>SD</i> | 16.62 | 5.758 | 17.68 | 5.803 | 15.57 | 5.540 |
| <i>SE</i> | 31.69 | 4.731 | 31.68 | 4.849 | 31.70 | 4.631 |

Notes:
Age ranges from 19 to 67 years of age.
Gender is coded as 1 = male, 2 = female.
Yrs_exp measures participants' years of work experience and ranges from 1 to 50 years.
BIS captures participants' sensitivity to negative outcomes measured using Carver and White's (1994) BIS scale. Responses are provided on a 4-point scale with 1 = Very true for me and 4 = Very false for me. Higher scores indicate greater sensitivity to punishment. Scores range from 7 to 28 which is the possible range for the BIS.
BAS captures participants' sensitivity to positive outcomes measured using a composite of Carver and White's (1994) BAS scales. Responses are provided on a 4-point scale with 1 = Very true for me and 4 = Very false for me. Higher scores indicate greater sensitivity to positive outcomes.
SM captures participants' trait self-monitoring measured using Synder and Gangestad's (1986) self-monitoring scale. Participants select "True" for statements they think are true of themselves and "False" if not. Responses are coded as "1" for statements the participant selects that indicate higher self-monitoring tendencies and "0" otherwise. Higher scores indicate greater self-monitoring inclinations.

⁶⁷ I also categorized participants as having high or low narcissism using a median split of participants' NPI-40 scores (*Median* = 12) and then repeated the chi-squared tests to examine differences in the covariates between the high and low *Narcissism* groups. Results using a median split are consistent with those using a mean split.

Table 6 continued

Reputation⁶⁸ captures participants' reputation concern and is measured on a 5-point scale, with 1 = Not characteristic for me and 5 = Extremely characteristic for me. Scores range from 6 to 30.

Risk is measured on a 9-point scale with 1 = Totally disagree and 9 = Totally agree, except item 7 in which 1 = Risk avoider and 9 = Risk taker. Participants' responses are averaged across all items and higher scores indicate greater risk-taking tendencies.

SD is measured using Crowne and Marlow's (1960) social desirability scale. Participants select "True" for statements they think are true of themselves and "False" if not. Responses are coded as "1" for statements the participant selects that indicate higher social desirability and "0" otherwise. Higher scores indicate greater social desirability tendencies.

SE is measured on a 4-point scale in which higher scores indicate greater self-efficacy.

Underperforming Group contains responses from participants who are told in Year 3 that the initially selected project is not performing well.

Adequately performing Group contains responses from participants who are told in Year 3 that the initially selected project is performing as expected.

4.6 Correlations

Zero-order correlations among the dependent variable and the independent variables are shown for the underperforming group in Table 7. As expected, I find that *Narcissism* is significantly positively related to *Self-monitoring*, *Risk perception*, *Self-efficacy*, the *BAS* scale measures, as well as each of the *BAS* subscales (Drive, Fun and Reward). I also find that *Narcissism* is negatively related to *Age* and *BIS*; however, I do not find a significantly negative correlation between narcissism and participants' escalation of commitment (*Reinvest*).

4.7 Hypotheses Tests

To test the main hypothesis, I first conduct a three-way ANCOVA to assess whether there is a three-way interaction among the independent variables. Specifically, I compare the effects of *Narcissism* (high, low), *Perspective-taking* (prompt absent, prompt present), *Project*

⁶⁸ The experimental materials contained two errors regarding the reputation concern scale: (1) the first 55 participants were not prompted to respond to item 7 of de Cremer and Tyler's (2005) reputation concern scale, and (2) the first 84 participants responded on a 7-point scale rather than the typical 5-point scale. Once detected, I added item 7 to the experimental materials for the remaining 174 participants and adjusted the scale to 5-points. I rescaled responses from the first 84 participants to a 5-point scale and all analysis was conducted using items 1 to 6 of the reputation concern scale. I conducted additional analyses using the subsample of responses from 174 participants containing items 1 to 7 of the reputation concern scale and inferences remain unchanged.

Table 7
Zero-order correlations – Underperforming Group

| | <i>Reinvest</i> | <i>NPI</i> | <i>NPI 16</i> | <i>Gender</i> | <i>Age</i> | <i>BIS</i> | <i>BAS</i> | <i>BAS Drive</i> | <i>BAS Fun</i> | <i>BAS Reward</i> | <i>SM</i> | <i>Rep</i> | <i>Risk</i> | <i>SD</i> | <i>SE</i> |
|-------------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|----------------|------------------|----------------|-------------------|----------------|----------------|----------------|----------------|----------------|
| <i>Reinvest</i> | 1 | .088 .354 | .037 .696 | .223* .017 | -.210* .025 | -.035 .709 | .280** .003 | .127 .178 | .275** .003 | .258** .006 | -.021 .824 | .033 .730 | -.025 .796 | .094 .320 | .033 .727 |
| <i>NPI</i> | .088 .354 | 1 | .859** .000 | -.123 .193 | -.238* .011 | -.254** .006 | .403** .000 | .428** .000 | .361** .000 | .134 .154 | .537** .000 | .094 .320 | .335** .000 | -.079 .405 | .424** .000 |
| <i>NPI-16</i> | .037 .696 | .859** .000 | 1 | -.137 .147 | -.123 .194 | -.240* .010 | .331** .000 | .364** .000 | .298** .001 | .096 .312 | .578** .000 | .046 .624 | .303** .001 | -.149 .115 | .402** .000 |
| <i>Gender</i> | .223* .017 | -.123 .193 | -.137 .147 | 1 | .131 .164 | .132 .162 | .073 .442 | .048 .615 | .005 .960 | .128 .174 | -.165 .080 | .010 .915 | -.200* .033 | .198* .035 | .064 .501 |
| <i>Age</i> | -.210* .025 | -.238* .011 | -.123 .194 | .131 .164 | 1 | -.061 .521 | -.136 .149 | -.078 .411 | -.219* .019 | -.008 .935 | -.109 .248 | -.047 .617 | -.094 .322 | .185* .049 | .177 .060 |
| <i>BIS</i> | -.035 .709 | -.254** .006 | -.240* .010 | .132 .162 | -.061 .521 | 1 | -.122 .197 | -.144 .126 | -.168 .074 | .046 .626 | -.128 .174 | .137 .146 | -.229* .014 | -.076 .422 | -.159 .091 |
| <i>BAS</i> | .280** .003 | .403** .000 | .331** .000 | .073 .442 | -.136 .149 | -.122 .197 | 1 | .803** .000 | .802** .000 | .735** .000 | .252** .007 | .273** .003 | .201* .032 | .048 .609 | .281** .002 |
| <i>BAS Drive</i> | .127 .178 | .428** .000 | .364** .000 | .048 .615 | -.078 .411 | -.144 .126 | .803** .000 | 1 | .460** .000 | .402** .000 | .159 .090 | .284** .002 | .141 .135 | -.107 .256 | .272** .003 |
| <i>BAS Fun</i> | .275** .003 | .361** .000 | .298** .001 | .005 .960 | -.219 .019 | -.168 .074 | .802** .000 | .460** .000 | 1 | .379** .000 | .333** .000 | .092 .330 | .322** .000 | .066 .483 | .120 .203 |
| <i>BAS Reward</i> | .258** .006 | .134 .154 | .096 .312 | .128 .174 | -.008 .935 | .046 .626 | .735** .000 | .402** .000 | .379** .000 | 1 | .079 .403 | .277** .003 | -.019 .841 | .169 .073 | .277** .003 |
| <i>SM</i> | -.021 .824 | .537** .000 | .578** .000 | -.165 .080 | -.109 .248 | -.128 .174 | .252** .007 | .159 .090 | .333** .000 | .079 .403 | 1 | -.050 .595 | .453** .000 | -.277* .015 | .138 .145 |
| <i>Rep</i> | .033 .730 | .094 .320 | .046 .624 | .010 .915 | -.047 .617 | .137 .146 | .273** .003 | .284** .002 | .092 .330 | .277** .003 | -.050 .595 | 1 | -.179 .056 | .175 .062 | .157 .096 |
| <i>Risk</i> | -.025 .796 | .335** .000 | .303** .001 | -.200* .033 | -.094 .322 | -.229* .014 | .201* .032 | .141 .135 | .322** .000 | -.019 .841 | .453** .000 | -.179 .056 | 1 | -.188* .045 | .133 .159 |
| <i>SD</i> | .094 .320 | -.079 .405 | -.149 .115 | .198* .035 | .185* .049 | -.076 .422 | .048 .609 | -.107 .256 | .066 .483 | .169 .073 | -.227* .015 | .175 .062 | -.188* .045 | 1 | .223* .017 |
| <i>SE</i> | .033 .727 | .434** .000 | .402** .000 | .064 .501 | .177 .060 | -.159 .091 | .281** .002 | .272** .003 | .120 .203 | .277** .003 | .138 .145 | .157 .096 | .133 .159 | .223* .017 | 1 |

Notes:

Reinvest measures participants' willingness to continue with the initially selected project with 1 = terminate the earbud project and 10 = continue the earbud project.
NPI is measured using the NPI (Raskin and Terry 1988) Scores range from 0 to 37 (out of a maximum of 40) with higher scores indicating greater narcissism.
NPI-16 is measured using the NPI-16 (Ames et al. 2006). Scores range from 0 to 16 (out of a maximum of 16) and higher scores indicate greater narcissism.
Gender is coded as 1 = male, 2 = female.
Age ranges from 19 to 67 years of age.

Table 7 continued

Notes:

BIS captures participants' sensitivity to negative outcomes measured using Carver and White's (1994) BIS scale. Responses are provided on a 4-point scale with 1 = Very true for me and 4 = Very false for me. Scores range from 7 to 28 with higher scores indicating greater sensitivity to punishment.

BAS captures participants' sensitivity to positive outcomes measured using a composite of Carver and White's (1994) BAS scales. Responses are provided on a 4-point scale with 1 = Very true for me and 4 = Very false for me. Scores range from 15 to 52 with higher scores indicating greater sensitivity to positive outcomes.

BAS Drive, BAS Fun and **BAS Reward** are three of Carver and White's (1994) BAS scales. Responses are provided on a 4-point scale in which higher score indicate greater sensitivity to positive outcomes. Scores range from 4 to 16 (**BAS Drive**), 4 to 16 (**BAS Fun**) and 6 to 20 (**BAS Reward**).

SM captures participants' trait self-monitoring measured using Snyder and Gangestad's (1986) self-monitoring scale. Participants select "True" for statements they think are true of themselves and "False" if not. Responses are coded as "1" for statements the participant selects that indicate higher self-monitoring tendencies and "0" otherwise. Scores range from 0 to 18 with higher scores indicate greater self-monitoring inclinations.

Rep captures participants' reputation concern and is measured on a 5-point scale, with 1 = Not characteristic for me and 5 = Extremely characteristic for me. Scores range from 6 to 30. See footnote 68 for a discussion of errors that were detected when administering this scale.

Risk is measured on a 9-point scale with 1 = Totally disagree and 9 = Totally agree, except item 7 in which 1 = Risk avoider and 9 = Risk taker. Participants' scores are computed as an average across all items, ranging from 0.81 to 5.10. Higher scores indicate greater risk-taking tendencies.

SD is measured using Crowne and Marlow's (1960) social desirability scale. Participants select "True" for statements they think are true of themselves and "False" if not. Responses are coded as "1" for statements the participant selects that indicate higher social desirability and "0" otherwise. Scores range from 3 to 32 with higher scores indicating greater social desirability tendencies.

SE is measured on a 4-point scale. Scores range from 16 to 40 with higher scores indicating greater self-efficacy.

Performance (adequately performing, underperforming) and the interaction of these factors on *Reinvest*.⁶⁹ For analysis, I categorize participants' narcissism as high or low using a mean split of their NPI scores ($M = 12.50$, $SD = 7.67$). Results of a three-way ANCOVA, shown in Table 8, indicate that the interaction of *Narcissism*, *Perspective-taking*, and *Project Performance* is not statistically significant ($F(1, 116) = 2.42$, $p = .121$, two-tailed). Thus, the interaction between managers' narcissism and perspective-taking is not statistically significantly different between the levels of project performance. As well, I do not find statistically significant two-way interactions between *Narcissism* and *Perspective-taking* ($F(1, 116) = 3.24$, $p = .073$, two-tailed), *Narcissism* and *Performance* ($F(1, 116) = 2.08$, $p = .151$, two-tailed), nor *Perspective-taking* and *Performance* ($F(1, 116) = 1.51$, $p = .209$, two-tailed). For main effects, I find a statistically significant effect of *Performance* ($F(1, 116) = 251.67$, $p < .001$, two-tailed) but not of *Narcissism* ($F(1, 116) = 1.16$, $p = .283$, two-tailed) nor *Perspective-taking* ($F(1, 116) = 0.43$, $p = .515$, two-tailed).

To follow up on the main effect of *Performance*, I conduct a one-way ANOVA (untabulated) and find that participants' in the adequately performing group ($M = 9.36$, $SD = 0.86$) are significantly more willing to continue with the earbud project than participants in the underperforming group ($M = 4.57$, $SD = 2.99$), $F = 270.06$, $p < .001$. This suggests that participants are less likely to continue supporting the earbud project after receiving negative

⁶⁹ Participants in this study report lower narcissism scores than have been observed in other studies ($M = 12.50$, $SD = 7.67$). For example, other studies have reported NPI means of 15.55 ($SD = 6.66$) (Raskin and Terry 1988), 16.27 ($SD = 7.15$) (Campbell et al. 2000), and 17.74 ($SD = 7.54$) (Foster et al. 2011). Since participants in this study tend to have lower narcissism than in other studies, consistent with Dworkis (2013), I use a mean split ($M = 12.50$) rather than a median split ($Median = 12$) to classify participants as having high or low narcissism and report the results in Section 4.7. This design choice results in 17 participants with a median NPI-40 score of 12 being classified as having low narcissism. In contrast, using a median split, these participants are classified as having high narcissism. In the absence of clear rules guiding how participants ought to be classified when their responses fall on the median, I consider how those participants would be classified in other studies (i.e., low narcissism) and, as a result, choose to use a mean split for the main tests of the hypotheses. For supplemental analysis, I also conducted an ANCOVA using a median split to test the hypotheses and briefly discuss the results in footnote 71.

Table 8

Narcissism, Perspective-taking and Escalation of Commitment
[N = 228]

Panel A: Descriptive Statistics

| | | Project Performance | | | | | |
|-----------------------------------|---------------------------|------------------------------|-----------------------|---------------------------|---------------------------|-----------------------|-----------------------|
| | | Adequately Performing | | | Underperforming | | |
| Mean (std. dev.) n | Perspective-taking | | Total | Perspective-taking | | Total | Total |
| | Prompt Absent | Prompt Present | | Prompt Absent | Prompt Present | | |
| High narcissism | 9.36 (0.86) 25 | 9.36 (0.76) 25 | 9.36 (0.80) 50 | 4.25 (3.04) 28 | 5.81 (2.82) 21 | 4.92 (3.02) 49 | 7.16 (3.13) 99 |
| Low narcissism | 9.58 (0.71) 33 | 9.13 (1.06) 31 | 9.36 (0.92) 64 | 4.43 (2.93) 30 | 4.20 (3.03) 35 | 4.31 (2.96) 65 | 6.81 (3.35) 129 |
| Total | 9.48 (0.78) 58 | 9.23 (0.93) 56 | 9.36 (0.86) 114 | 4.34 (2.96) 58 | 4.80 (3.03) 56 | 4.57 (2.99) 114 | 6.96 (3.25) 228 |

Panel B: Three-way ANCOVA of Narcissism and Perspective-taking with Escalation

| Source | df | F | p-value |
|--|-----------|----------|----------------|
| <i>Perspective-taking</i> | 1 | 0.43 | .515 |
| <i>NPI_high</i> | 1 | 1.16 | .283 |
| <i>Performance</i> | 1 | 251.67 | .000 |
| <i>NPI_high*Perspective-taking</i> | 1 | 3.24 | .073 |
| <i>NPI_high*Performance</i> | 1 | 2.08 | .151 |
| <i>Perspective-taking*Performance</i> | 1 | 1.59 | .209 |
| <i>NPI_high*Perspective-taking*Performance</i> | 1 | 2.42 | .121 |
| Covariates: | | | |
| <i>Age</i> | 1 | 1.99 | .160 |
| <i>Gender</i> | 1 | 6.76 | .010 |
| <i>Project_exp</i> | 1 | 3.38 | .067 |
| <i>Own_earbuds</i> | 1 | 1.23 | .269 |
| Error | 216 | | |
| Total | 227 | | |

Notes:

NPI_high is a dummy variable [1 = high narcissism, 0 = low narcissism] based participants' mean NPI score.
Perspective-taking indicates whether or not participants are prompted to engage in perspective-taking coded as 0 = No (Prompt Absent) and 1 = Yes (Prompt Present).
Performance indicates whether or not participants are informed that the project in which they initially invested is performing as expected or underperforming according to the Year 3 Update coded as 0 = No and 1 = Yes.
*NPI_high*Perspective-taking* captures the interaction of *Narcissism* and *Perspective-taking*.
*NPI_high*Performance* captures the interaction of *Narcissism* and *Project Performance*.
*Perspective-taking*Performance* captures the interaction of *Perspective-taking* and *Performance*.

Table 8 continued

*NPI_high*Perspective-taking*Performance* captures the interaction of *Narcissism*, *Perspective-taking* and *Performance*.

Age ranges from 19 to 67 years of age.

Gender is coded as 1 = Male, 2 = Female.

Project_exp indicates whether participants have experience with project continuation decisions coded as 0 = No and 1 = Yes.

Own_earbuds captures whether participants own earbuds similar to those described in this study coded as 0 = No and 1 = Yes.

p-value is two-tailed in Panel B.

feedback; however, results (untabulated) of a one-sample t-test demonstrate that the reinvestment decision of participants in the underperforming group is significantly different from zero ($t(113) = 16.32, p < .001$). Thus, participants in the underperforming group exhibit escalation of commitment.

In Hypothesis 1, based on narcissists' relatively high approach/low avoidance orientation, I predict that narcissists' escalation tendencies will be lower than non-narcissists' escalation tendencies. In Hypothesis 2, I predict that managers adopting the perspective of another manager will be less likely to escalate and in Hypothesis 3, I predict that this prompt will be more effective in reducing the escalation tendencies of non-narcissists managers, relative to narcissistic managers.

As previously discussed, participants in the adequately performing group received neutral feedback. Thus, their reinvestment decision cannot be used to examine participants' escalation to an underperforming project. In contrast, participants in the underperforming group, who received negative feedback, would have experienced dissonance and I expect that their reinvestment decisions reflect escalation of commitment. Thus, to test my hypotheses, I split the data based on *Project performance* and perform statistical tests separately on each group.

Underperforming Group

For analysis, I categorize participants' narcissism as high or low using a mean split of their NPI scores ($M = 12.50$, $SD = 7.67$).⁷⁰ I perform a two-way ANCOVA to compare the main effects of *Narcissism* (high, low) and *Perspective-taking* (prompt absent, prompt present) and the interaction of these factors on *Reinvest*.⁷¹ As shown in Table 9, panel A, the mean *Reinvest* for high narcissism ($M = 4.92$, $SD = 3.02$) is higher than for low narcissism ($M = 4.31$, $SD = 2.96$). Additionally, the mean *Reinvest* for the prompt present group ($M = 4.80$, $SD = 3.03$) is higher than for prompt absent group ($M = 4.34$, $SD = 2.96$). As shown in Table 9, panel B, neither the main effect of *Narcissism* ($F(1, 106) = 1.64$, $p = .203$), nor the main effect of *Perspective-taking* ($F(1, 106) = 0.53$, $p = .468$) on *Reinvest* are statistically significant in the underperforming group. While I find that the interaction of *Narcissism* and *Perspective-taking* ($F(1, 106) = 3.35$, $p = .070$, two-tailed) is statistically significant at the $p < .10$ level, it is in the opposite direction to that I predicted.

To test Hypothesis 1, I conduct simple effect tests and planned comparisons to compare *Reinvest* for participants in the high narcissism ($M = 4.92$, $SD = 3.02$) and low narcissism groups ($M = 4.31$, $SD = 2.96$). As shown in Table 9, panel C, the effect of *Narcissism* on *Reinvest* is not statistically significant ($t(112) = -1.08$, $p = .141$, one-tailed).⁷²

⁷⁰ See footnote 69 for a discussion of using a mean versus a median split to classify participants as having high or low narcissism.

⁷¹ For supplemental analysis, I also used a median split to classify participants as having high or low narcissism and conducted an ANCOVA to test the hypothesis. Results (untabulated) show that the interaction between *Narcissism* and *Perspective-taking* is no longer significant ($p = .250$, one-tailed). All other inferences remain unchanged. Furthermore, I conducted a regression analysis that does not require classifying participants as having high or low narcissism and also find that the interaction between *Narcissism* and *Perspective-taking* is no longer significant ($p = .251$, one-tailed).

⁷² In Hypothesis 1, I predict that narcissistic managers will be less likely to escalate than non-narcissistic managers. In Hypothesis 2, I predict that prompting managers to engage in perspective-taking will reduce their escalation tendencies. Since these are directional hypotheses, I use one-tailed t-tests.

Table 9

**Test of Hypotheses [n = 114]
Narcissism, Perspective-taking and Escalation of Commitment
in the Underperforming Group**

Panel A: Descriptive Statistics

| Mean (std. dev.) n | Perspective-taking | | Total |
|--------------------------|----------------------|----------------------|-----------------------|
| | Prompt Absent | Prompt Present | |
| High narcissism | 4.25 (3.04) 28 | 5.81 (2.82) 21 | 4.92 (3.02) 49 |
| Low narcissism | 4.43 (2.93) 30 | 4.20 (3.03) 35 | 4.31 (2.96) 65 |
| Total | 4.34 (2.96) 58 | 4.80 (3.03) 56 | 4.57 (2.99) 114 |

Panel B: Two-way ANCOVA of Narcissism and Perspective-taking with Escalation

| <u>Source</u> | <u>df</u> | <u>F</u> | <u>p-value</u> |
|------------------------------------|-----------|----------|----------------|
| <i>Perspective-taking</i> | 1 | 0.53 | .468 |
| <i>NPI_high</i> | 1 | 1.64 | .203 |
| <i>NPI_high*Perspective-taking</i> | 1 | 3.35 | .070 |
| Covariates: | | | |
| <i>Age</i> | 1 | 2.81 | .097 |
| <i>Gender</i> | 1 | 9.85 | .002 |
| <i>Project_exp</i> | 1 | 4.22 | .042 |
| <i>Own_earbuds</i> | 1 | 5.52 | .021 |
| Error | 106 | | |
| Total | 114 | | |

Panel C: Simple Effects and Planned Comparisons

| <u>Effect</u> | <u>df</u> | <u>t</u> | <u>p-value</u> |
|------------------------------|-----------|----------|----------------|
| High vs. Low narcissism | 112 | -1.08 | .141 |
| PTA vs. PTP | 112 | -0.82 | .208 |
| PTA: High vs. Low narcissism | 56 | -0.23 | .408 |
| PTP: High vs. Low narcissism | 54 | -1.98 | .026 |
| High narcissism: PTA vs PTP | 47 | -1.83 | .036 |
| Low narcissism: PTA vs PTP | 63 | -0.31 | .377 |

Table 9 continued

Notes:

Age ranges from 19 to 67 years of age.

Gender is coded as 1 = Male, 2 = Female.

Project_exp indicates whether participants have experience with project continuation decisions coded as 0 = No and 1 = Yes.

Own_earbuds captures whether participants own earbuds similar to those described in this study coded as 0 = No and 1 = Yes.

NPI_high is a dummy variable [1 = high narcissism, 0 = low narcissism] based participants' mean NPI score.

*NPI_high*Perspective-taking* captures the interaction of *Perspective-taking* and *Narcissism*. *p-value* for the interaction is one-tailed because one direction is expected.

PTA indicates participants who are not prompted to engage in perspective-taking.

PTP indicates participants who are prompted to engage in perspective-taking.

p-value is two-tailed in Panel B and, in Panel C, it is one-tailed because one direction is expected for the manipulation.

In Hypothesis 3, I predict that *Narcissism* and *Perspective-taking* will interact such that a perspective-taking prompt will reduce the escalation tendencies of non-narcissistic managers to a greater extent than that of narcissistic managers. As previously stated, results of the two-way ANCOVA reveal that the interaction effect of *Narcissism* and *Perspective-taking* is statistically significant ($F(1, 106) = 3.35, p = .070$, two-tailed), yet, it is in the opposite direction than I predicted. Thus, I do not find support for Hypothesis 3. Plotting the means for the experiment, shown in Figure 5, reveals a disordinal interaction. In Section 4.8, I discuss these unexpected findings.

Figure 5
Means of Reinvest by Narcissism and Perspective-taking
in the Underperforming Group

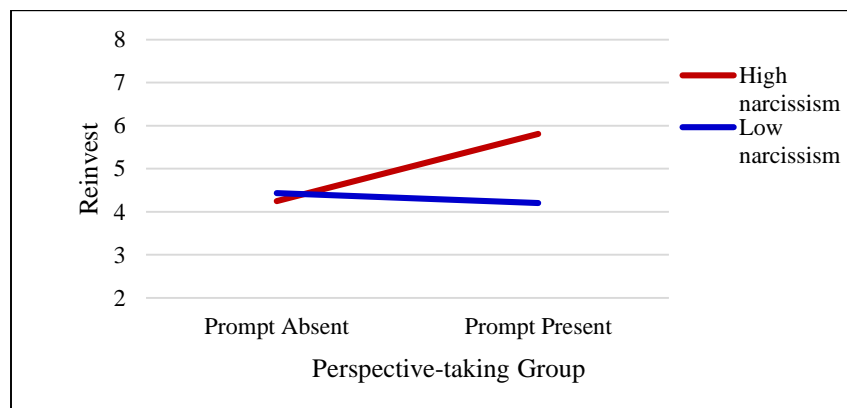


Figure 5 continued**Notes:**

Reinvest is rated on a scale of 1 = Terminate the earbud project and 10 = Continue the earbud project.

Perspective-taking Prompt Present (Prompt Absent) is for participants who were (were not) prompted to consider an outside manager's perspective.

Narcissism is high for participants whose narcissism score is above the mean ($M = 12.50$, $SD = 7.67$) and low for participants whose narcissism score is below the mean.

Adequately Performing Group

As with the underperforming group, I categorize participants in the adequately performing group as having high or low narcissism using a mean split of their NPI scores ($M = 12.50$, $SD = 7.67$). I perform a two-way ANCOVA to compare the main effects of *Narcissism* (high, low) and *Perspective-taking* (prompt absent, prompt present) and the interaction of these factors on *Reinvest*. As shown in Table 10, panel A, the mean *Reinvest* for high narcissism ($M = 9.36$, $SD = 0.80$) is comparable to that for low narcissism ($M = 9.36$, $SD = 0.92$). In contrast, the mean *Reinvest* for the prompt present group ($M = 9.23$, $SD = 0.93$) is higher than for prompt absent group ($M = 9.48$, $SD = 0.78$). As shown in Table 9, panel B, neither the main effect of *Narcissism* ($F(1, 106) = 0.06$, $p = .807$, two-tailed) nor the main effect of *Perspective-taking* ($F(1, 106) = 2.32$, $p = .131$, two-tailed) on *Reinvest* are statistically significant in the adequately performing group. Furthermore, I find that the interaction effect of *Narcissism* and *Perspective-taking* ($F(1, 106) = 2.72$, $p = .102$, two-tailed) is not statistically significant. Since the reinvestment decision of participants in the adequately performing group does not reflect escalation, I do not formalize any predictions regarding the effect of narcissism and perspective-taking on participants' continued support of the earbud project.

Table 10

Narcissism, Perspective-taking and Escalation of Commitment
In the Adequately Performing Group [n = 114]

Panel A: Descriptive Statistics

| Mean (std. dev.) n | Perspective-taking | | |
|--------------------------|----------------------|----------------------|-----------------------|
| | Absent | Present | Total |
| High narcissism | 9.36 (0.86) 25 | 9.36 (0.76) 25 | 9.36 (0.80) 50 |
| Low narcissism | 9.58 (0.71) 33 | 9.13 (1.06) 31 | 9.36 (0.92) 64 |
| Total | 9.48 (0.78) 58 | 9.23 (0.93) 56 | 9.36 (0.86) 114 |

Panel B: Two-way ANCOVA of Narcissism and Perspective-taking with Escalation⁷³

| <u>Source</u> | <u>df</u> | <u>F</u> | <u>p-value</u> |
|------------------------------------|-----------|----------|----------------|
| <i>Perspective-taking</i> | 1 | 2.32 | .131 |
| <i>NPI_high</i> | 1 | 0.06 | .807 |
| <i>NPI_high*Perspective-taking</i> | 1 | 2.72 | .102 |
| Covariates: | | | |
| <i>Age</i> | 1 | 0.00 | .963 |
| <i>Gender</i> | 1 | 0.04 | .840 |
| <i>Project_exp</i> | 1 | 0.09 | .760 |
| <i>Own_earbuds</i> | 1 | 6.89 | .010 |
| <i>Error</i> | 106 | | |
| Total | 114 | | |

Panel C: Simply Effects and Planned Comparisons

| <u>Effect</u> | <u>df</u> | <u>t</u> | <u>p-value</u> |
|------------------------------|-----------|----------|----------------|
| High vs. Low narcissism | 112 | -0.00 | .997 |
| PTA vs. PTP | 112 | 1.56 | .122 |
| PTA: High vs. Low narcissism | 56 | 1.05 | .345 |
| PTP: High vs. Low narcissism | 54 | -0.92 | .319 |
| High narcissism: PTA vs PTP | 48 | 0.00 | 1.000 |
| Low narcissism: PTA vs PTP | 62 | 2.00 | .050 |

⁷³ I also conducted an ANCOVA with only *Own_earbuds* as a covariate and find that the interaction between *Narcissism* and *Perspective-taking* is not statistically significant ($p = .100$, two-tailed).

Table 10 continued

Notes:

Age ranges from 19 to 67 years of age.

Gender is coded as 1 = Male, 2 = Female.

Project_exp indicates whether participants have experience with project continuation decisions coded as 0 = No and 1 = Yes.

Own_earbuds captures whether participants own earbuds similar to those described in this study coded as 0 = No and 1 = Yes.

NPI_high is a dummy variable [1 = high narcissism, 0 = low narcissism] based participants' mean NPI score.

NPI_high*Perspective-taking captures the interaction of *Perspective-taking* and *Narcissism*.

PTA indicates participants who are not prompted to engage in perspective-taking.

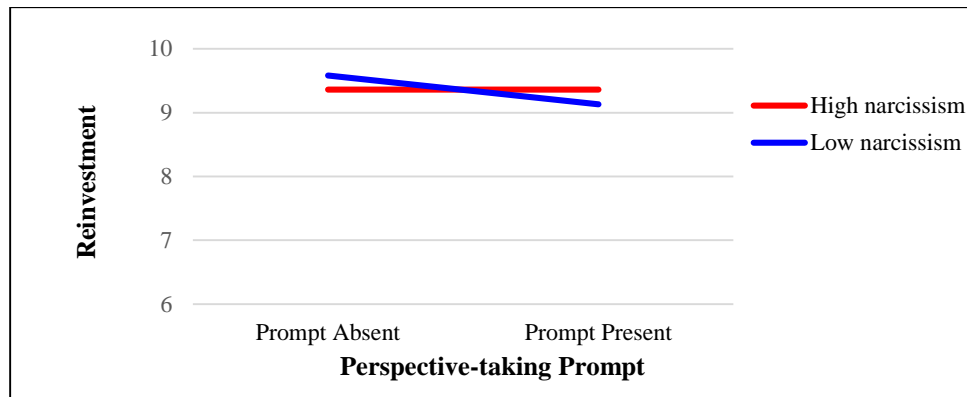
PTP indicates participants who are prompted to engage in perspective-taking.

p-value is two-tailed in Panel B and Panel C because no predictions are made for the manipulation.

Plotting the means of the experiment reveals a disordinal interaction, shown in Figure 6.

To explore this interaction, I use planned comparisons. The results presented in Table 9, panel C show a statistically significant effect of *Perspective-taking* on *Reinvest* in the low narcissism group ($t(62) = 2.00, p = .050$, two-tailed) and not in the high narcissism group ($t(48) = 0.00, p = 1.000$, two-tailed). All other effects are not statistically significant ($p > .10$). Since participants in the adequately performing group are not responding to project feedback, their responses reveal their commitment to a project that is performing as expected. Unexpectedly, these results indicate the prompting non-narcissists to consider the perspective of an outside manager reduces their commitment to a successful project and increases their willingness to choose an alternative, less profitable project. This effect was not predicted and I discuss these results further in Section 4.8.

Figure 6
Means of Reinvest by Narcissism and Perspective-taking
in the Adequately Performing Group



Notes:

Reinvest is rated on a scale of 1 = Terminate the earbud project and 10 = Continue the earbud project.

Perspective-taking Group Prompt Present (Prompt Absent) is for participants who were (were not) prompted to consider an outside manager’s perspective.

Narcissism is high for participants whose narcissism score is above the mean ($M = 12.50, SD = 7.67$) and low for participants whose narcissism score is below the mean.

4.8 Discussion of Test of Hypothesis

Results presented in Section 4.7 do not support my predicted hypotheses; however, they do suggest that other factors influence managers’ escalation decisions beyond those discussed in the Chapter 2. As shown in Figure 5, there is a disordinal interaction between *Narcissism* and *Perspective-taking*. To explore this interaction, I conduct planned comparisons to test the effect of the *Perspective-taking* on participants with high and low narcissism. As shown in Table 9, panel C, the effect of *Narcissism* on *Reinvest* is statistically significant in the prompt present group ($t(54) = -1.98, p = .026$, one-tailed) and not in the prompt absent group ($t(56) = -0.23, p = .408$, one-tailed). These results indicate that the effect of *Narcissism* on *Reinvest* depends on whether the *Perspective-taking* prompt is present or absent. Additionally, I find that the effect of *Perspective-taking* on *Reinvest* is statistically significant in the high narcissism group ($t(47) = -1.83, p = .036$, one-tailed) and not in the low narcissism group ($t(63) = -0.31, p = .377$, one-

tailed).⁷⁴ These results indicate that the effect of *Perspective-taking* on *Reinvest* depends upon whether participants have high or low narcissism. Thus, contrary to my expectations, I find that prompting narcissists to consider the perspective of an outside manager actually *increases* their tendency to escalate and suggests that, in certain circumstances, perspective-taking may negatively impact decision-making.

While research predominantly focuses on positive outcomes associated with perspective-taking, a small (and growing) body of literature is documenting negative outcomes. According to Sassenrath et al.'s model (2016), there are several contexts in which perspective-taking may backfire. Relevant to my study is the context in which perspective-taking increases one's awareness that he or she may be evaluated by others and that this evaluation may be negative.⁷⁵ Appealing to focus illusion, Savitsky et al. (2001) suggest that individuals are aware that their own self-view is positively biased and, when being assessed by others, they will overestimate the

⁷⁴ I also conducted planned comparisons using a median split to categorize participants' as having high or low narcissism. Results (untabulated) show that none of the contrasts reported in Section 4.7 reach statistical significance (all p -values $> .10$). To compare responses of individuals with acutely high and low narcissism, consistent with Campbell et al. (2000a), I also classified participants as having high or low narcissism based on their NPI-40 scores being 1 SD above (>20.17) and 1 SD below (<4.83) the mean score. Results of an ANCOVA (untabulated) show that the inferences remain unchanged from those reported using a mean split. Specifically, the interaction between *Narcissism* and *Perspective-taking* is statistically significant ($F(1, 31) = 3.018, p = .046$, two-tailed) and the planned contrasts between (1) high and low narcissism participants in the prompt present group, and (2) prompt present and prompt absent groups for participants with high narcissism, are both statistically significant ($p < .05$, one-tailed); however, these results must be interpreted with caution since the total sample size in the *Underperforming* group is 37 participants. Overall, these results suggest that the findings in my thesis may be sensitive to the classification of participants as having high or low narcissism.

⁷⁵ Sassenrath et al. (2016) discuss two additional contexts in which perspective-taking may backfire. The first occurs when individuals have difficulty adopting the perspective of another individual, such as when another's perspective is too dissimilar from our own. Epley et al.'s (2004) anchoring and adjustment model argues that individuals engaging in perspective-taking will overlap their own perspective with that of the target (i.e., self-other overlap). Tarrant et al. (2012) argue that highly in-group members having difficulty placing themselves in the shoes of an out-group individual and that doing so threatens their own in-group identity. In response, the authors find that, after being prompted to consider the perspective of an out-group individual, highly in-group members judge the out-group individuals more harshly relative to less in-group members. The second context (Context 3 in Sassenrath et al. (2016)) occurs when adopting the perspective of another increases one's awareness that others may behave self-interestedly. When engaging in a competitive task, this heightened awareness increases one's tendency to behave selfishly (Epley et al. 2006).

extent that others will judge them harshly. In anticipation of others' negative evaluation, individuals' need to protect their positive self-view is triggered and they are motivated to defend against the ego-threat. Thus, positive outcomes commonly observed with perspective-taking are not realized. Research exploring the adverse impact of perspective-taking has examined the use of stereotypes by in-group members. While perspective-taking has been shown to increase in-group members' empathy toward out-group members (e.g., Dovidio et al. 2004), this effect is absent among highly in-group members who anticipate that out-group members would negatively evaluate them (Tarrant et al. 2012; Vorauer and Sasaki 2009). Thus, some individuals feel heightened ego-threat in response to perspective-taking and the positive outcomes commonly associated with perspective-taking do not occur.

In accounting research, Altiero et al. (2019) recently find that auditors who are prompted to adopt the perspective of an investor place less weight on evidence suggesting that a misstatement is material. The authors argue that auditors engage in *motivated perspective-taking* in which viewing audit evidence from an investors' perspective triggers auditors' need to rationalize their management-preferred conclusions. Thus, research in psychology and accounting indicate that perspective-taking may increase individuals' awareness that they may be negatively assessed by others. Applied to my study, this stream of literature suggests that prompting narcissists to adopt the perspective of an outside manager may have increased their awareness that they could be evaluated by others and that others' assessment would be less favourable than the managers' inflated self-view. Appealing to CDT, the perspective-taking prompt may make dissonant investment feedback more salient to narcissistic managers and more difficult to ignore. Rather than incorporate the negative feedback into their decision-making and reduce narcissists' escalation tendencies, the prompt appears to trigger narcissists' ego-threat and, instead of

drawing from their abundant affirmational resources to restore their global positive self-view, narcissistic managers increase their commitment to an underperforming project.

Unexpectedly, I also find that prompting non-narcissistic managers to engage in perspective-taking reduces their commitment to an adequately performing project. Since the difference between the means does not appear to be large (PTA: $M = 9.58$, $SD = 0.71$; PTP: $M = 9.13$, $SD = 1.06$), I hesitate to place emphasis on this finding. However, it is consistent with theory suggesting that perspective-taking increases individuals consideration of the broader context (Kross and Ayduk 2011; Kross and Grossmann 2012; Staudinger and Glück 2011) and may indicate that, when not threatened by dissonant feedback, perspective-taking increases non-narcissists' willingness to consider alternative investments, even when those investments are expected to provide lower returns. In contrast, the perspective-taking prompt does not have a statistically significant impact on narcissists' commitment to an initially chosen project ($t(48) = .00$, $p = 1.00$, two-tailed).

4.9 Exploratory Analysis

The theoretical model shown in Figure 2 outlines the relations underlying my prediction in Hypothesis 1. Given the surprising findings discussed in Sections 4.7 and 4.8, I conduct analyses to explore the relationships among participants' narcissism, approach/promotion orientation, avoidance/prevention orientation, and their reputation concerns and contrast the correlations observed in my study with those of prior research. I also discuss how results of the correlations analysis provide insight into the unexpected interaction between narcissism and perspective-taking.

Given my expectation that narcissists' approach orientation motivates them to consider and pursue alternative investments, I measure participants' approach/avoidance orientation using

Carver and White's (1994) BAS/BIS scales. As one of the most commonly used measures of approach-avoidance motivation, the BAS/BIS is designed to measure individuals' relative sensitivities to positive and negative outcomes. Specifically, "...the BAS regulates approach motivation and the BIS regulates avoidance motivation" (Foster and Brennan 2011, 92). Items from the BAS measure approach motivation (e.g., "When I want something I usually go all-out to get it.") whereas items from the BIS measure avoidance motivation (e.g., "Criticism or scolding hurts me quite a bit."). Using exploratory factor analysis, Carver and White (1994) find support for a four factor model, one factor for avoidance (*BIS*) and three factors for approach (*BAS*) which they term Drive, Fun Seeking and Reward Responsiveness.⁷⁶

Since I measured participants' narcissism and approach/avoidance orientation in Phase 1, participants' responses are not impacted by the investment/reinvestment decisions contained in Phase 2. Thus, I conduct correlation analysis on the full sample of participants (N = 228). The BAS scale is a composite measure of three BAS subscales. Therefore, I first assessed the goodness of fit of the BAS scale and report the model fit indices in Table 11.⁷⁷ I find that the *BAS* χ^2 is significant ($p < .001$, one-tailed), $\chi^2/df = 5.61$, RMR = 0.06, CFI = 0.72, GFI = 0.76, RMSEA = 0.14, and PCLOSE = 0.00, all of which indicate poor model fit.⁷⁸ Due to the poor fit, I examine the goodness of fit of each BAS subscale and find that, for each BAS subscale, the χ^2 is not statistically significant ($p > .05$, one-tailed), $\chi^2/df < 2.0$, RMR < 0.05, CFI > .95, GFI > 0.90, RMSEA < 0.08, and PCLOSE > 0.05, all of which indicate good fit. I also assessed the *BIS* scale and find that *BIS* χ^2 is significant ($p < .001$, one-tailed), $\chi^2/df = 3.02$, CFI = 0.90, GFI =

⁷⁶ Carver and White (1994, 322) assert that the BAS Drive items capture "persistent pursuit of desired goals", the BAS Fun Seeking items capture "a desire for new rewards and a willingness to approach a potential rewarding event on the spur of the moment", and the BAS Reward Responsiveness items capture "positive responses to the occurrence or anticipation of reward."

⁷⁷ I also include goodness of fit indices for participants' responses to Carver and White (1994) *BIS* scale in Table 11.

⁷⁸ Suggested cutoffs for each goodness of fit test statistic is shown in the Notes in Table 11.

0.91, RMSEA = 0.13, and PCLOSE = 0.00, all of which indicate the model has poor fit for the data. Consequently, results of analysis conducted with participants' *BIS* responses must be interpreted with caution.⁷⁹

Table 11
Chi-squared Goodness of Fit Tests for Carver and White's (1994) BAS/BIS Subscales
[N = 228]

| Model | χ^2 | df | <i>p</i> | χ^2/df | RMR | CFI | GFI | RMSEA | PCLOSE |
|-------------------|----------|----|----------|-------------|------|------|------|-------|--------|
| <i>BIS</i> | 42.26 | 14 | .000 | 3.02 | 0.05 | 0.90 | 0.91 | 0.13 | 0.00 |
| <i>BAS</i> | 364.45 | 65 | .000 | 5.61 | 0.06 | 0.72 | 0.76 | 0.14 | 0.00 |
| <i>BAS_Drive</i> | 1.87 | 2 | .393 | 0.94 | 0.01 | 1.00 | 0.99 | 0.00 | 0.49 |
| <i>BAS_Fun</i> | 0.49 | 2 | .780 | 0.25 | 0.01 | 1.00 | 1.00 | 0.00 | 0.83 |
| <i>BAS_Reward</i> | 7.81 | 5 | .167 | 1.56 | 0.02 | 0.98 | 0.98 | 0.07 | 0.30 |

Notes:

BIS captures participants' sensitivity to negative outcomes and is measured using Carver and White's (1994) BIS scale. Responses are provided on a 4-point scale in which higher score indicate greater sensitivity to punishment.

BAS captures participants' sensitivity to positive outcomes and is measured using Carver and White's (1994) BAS scales. Responses are provided on a 4-point scale in which higher score indicate greater sensitivity to positive outcomes.

BAS Drive, *BAS Fun* and *BAS Reward* are three of Carver and White's (1994) BAS scales. Responses are provided on a 4-point scale in which higher score indicate greater sensitivity to positive outcomes.

χ^2 = chi-squared statistic
df = degrees of freedom
p = *p*-value. *p*-values > .05 indicate that the model is a good fit for the data (Barrett 2007).
 χ^2/df = relative/normed chi-squared. Values < 2.0 indicate good fit (Tabachnick and Fidell 2012), although values as high as 5.0 may be acceptable (Wheaton et al. 1977).
RMR = root mean square residual. Values < 0.05 indicate good fit (Byrne 2013; Diamantopoulos and Siguaw 2000), although values as high as 0.08 may be acceptable (Hu and Bentler 1999).
CFI = comparative fit index. Values \geq 0.95 indicate good fit (Hu and Bentler 1999).
GFI = goodness-of-fit index. Values > 0.90 indicate good fit (Hooper et al. 2008).
RMSEA = root mean square error of approximation. Values < 0.05 indicate good fit and values between 0.05 and 0.08 indicate mediocre fit (MacCallum et al. 1996).
PCLOSE = a *p*-value for assessing RMSEA. Values > 0.05 indicate that the model is close-fitting with the data (Kenny 2015).

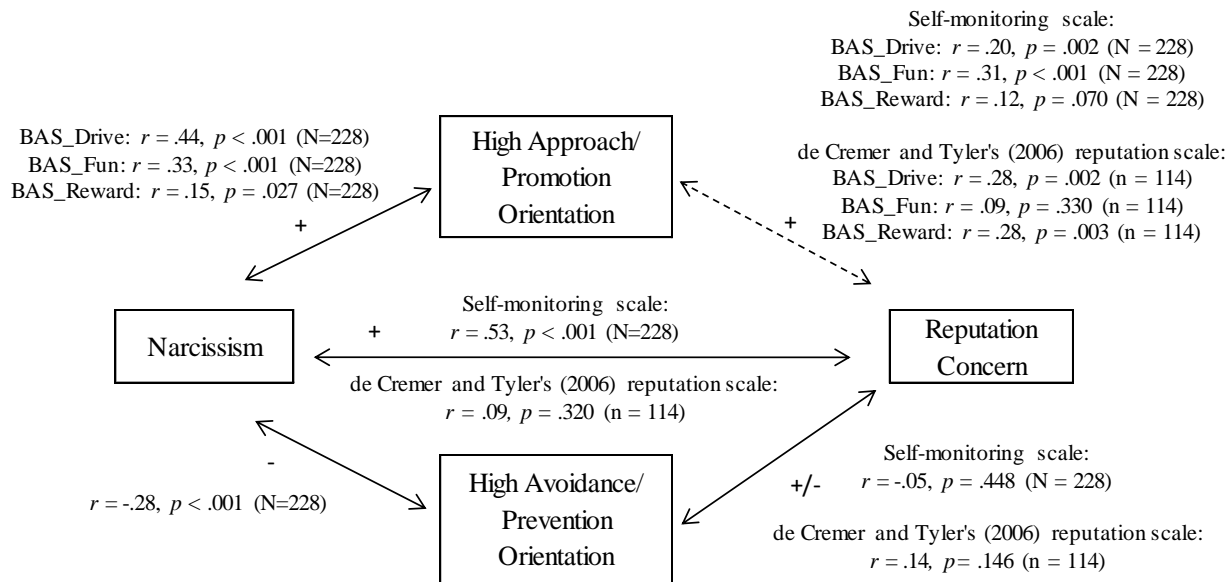
As expected, *Narcissism* is significantly positively correlated with each of the three BAS subscales (*BAS_Drive*: $r = 0.44$, $p < .001$; *BAS_Fun*: $r = 0.33$, $p < .001$; *BAS_Reward*: $r = 0.15$, $p = .027$) and significantly negatively correlated with *BIS* ($r = -0.28$, $p < .001$). Results are shown

⁷⁹ Post-hoc modifications of the BIS model did not improve fit. Reported statistics are of unmodified models.

Figure 7. Consistent with prior research (e.g., Foster and Trimm IV 2008), these results indicate that narcissistic participants have a high approach/low avoidance orientation.

Figure 7

Bivariate Correlations of Narcissism, Approach/Promotion Orientation, Avoidance/Prevention Orientation, and Reputation Concerns
[N = 228, unless otherwise noted]



Notes:

Narcissism is measured using the NPI-40 (Raskin and Terry 1988). Scores range from 0 to 37 (out of a maximum of 40) with higher scores indicating greater narcissism.

High Approach/Promotion Orientation is measured using a Carver and White's (1994) BAS sub-scales. Responses are provided on a 4-point scale with 1 = Very true for me and 4 = Very false for me. Higher scores indicate greater sensitivity to positive outcomes.

High Avoidance/Prevention Orientation is measured using a Carver and White's (1994) BIS scales. Responses are provided on a 4-point scale with 1 = Very true for me and 4 = Very false for me. Higher scores indicate greater sensitivity to negative outcomes.

Reputation concern is measured using two scales:

(1) Snyder and Gangestad's (1986) self-monitoring scale captures participants' trait self-monitoring. Participants select "True" for statements they think are true of themselves and "False" if not. Responses are coded as "1" for statements the participant selects that indicate higher self-monitoring tendencies and "0" otherwise. Higher scores indicate greater self-monitoring inclinations.

(2) de Cremer and Tyler's (2005) reputation scale captures participants' reputational concerns in the post-test questionnaire. It is measured on a 5-point scale, with 1 = Not characteristic for me and 5 = Extremely characteristic for me. Scores range from 6 to 30. Correlation analysis conducted on participants' responses to the de Cremer and Tyler (2005) are limited to those in the *Underperforming* group ($n = 114$).

In forming Hypothesis 1, I argue that individuals with a prevention orientation are more concerned with their reputation and, consequently, are more likely to escalate rather than switch to an alternative project offering the potential for higher returns. In this study, I used two scales to capture participants' reputation concerns. In Phase 1, participants' responded to Snyder and Gangestad's (1986) self-monitoring scale which I use to capture their global reputation concern.⁸⁰ In Phase 2, participants' responded to de Cremer and Tyler's (2005) reputation scale which was administered in the post-test questionnaire. Since participants did not complete the reputation scale immediately after receiving negative project feedback, I do not consider it to be a clean measure of whether participants' felt their reputation was at stake when making their reinvestment decision; however, it does provide some indication of participants' overall reputation concern toward the end of Phase 2.

Results of a correlation analysis between *BIS* and both the self-monitoring scale and reputation concern scale are shown Figure 7. I find that the correlation between *BIS* and the self-monitoring scale is not statistically significant ($r = -0.05, p = 0.448$). Since both CDT and SJT suggest that negative investment feedback triggers reputation concerns and motivates managers to escalate, I do not expect that participants who receive neutral feedback would experience cognitive dissonance and heightened reputation concern. Thus, to examine the correlation between *BIS* and reputation concern measured using de Cremer and Tyler's (2005) scale, I focus solely upon data from participants in the *Underperforming* group ($n = 114$). Consistent with

⁸⁰ Snyder and Gangestad's (1986) self-monitoring scale is intended to capture individuals' tendencies to monitor their behaviour and use self-presentation strategies. In accounting research examining individuals' escalation of commitment, Seybert (2010) and Kadous and Sedor (2004) both use the self-monitoring scale. I include it in my study for two reasons: (1) to capture participants' overall reputation concern (according to Cavazza et al. (2015), the self-monitoring scale is appropriate for measuring individuals' reputation concern), and (2) to compare findings of my study to those of Seybert (2010) and Kadous and Sedor (2004).

results from the self-monitoring scale, I do not find the correlation is statistically significant ($r = 0.14, p = .146$).⁸¹

Turning to the association between participants' approach/promotion orientation and their reputation concerns, in formulating Hypothesis 1, I argue that individuals with an approach orientation are not particularly concerned with their reputation, however, using Snyder and Gangestad's (1986) self-monitoring scale, I find that correlations with two of the BAS subscales are significantly positive (*BAS_Drive*: $r = .20, p = .002$; *BAS_Fun*: $r = .31, p < .001$; *BAS_Reward*: $r = .12, p = .070$). As previously mentioned, I do not expect participants in the *Adequately Performing* group to feel as though their reputation is at stake, therefore I limit my analysis on the correlation between reputation concern and the BAS subscales to responses from participants in the *Underperforming* group ($n = 114$). Results indicate there is a positive correlation between participants' responses to de Cremer and Tyler's (2006) reputation scale and two of the three BAS subscales (*BAS_Drive*: $r = .28, p = .002$; *BAS_Fun*: $r = .09, p = .330$; *BAS_Reward*: $r = .28, p = .003$). Thus, in contrast to Pfattheicher's (2015) findings, results of the correlation analysis suggests that approach oriented individuals are concerned with their reputation.

In Section 4.8, I discuss the unexpected interaction between narcissism and perspective-taking and speculate that a perspective-taking prompt increases the salience of a possible

⁸¹ Contrary to my results, Pfattheicher (2015) finds that prevention oriented individuals have greater reputation concerns. To capture prevention orientation, Pfattheicher (2015) uses Lockwood et al.'s (2002) regulatory focus scale whereas I use Carver and White (1994) BAS scale. While the RFS and the BAS/BIS scales are significantly correlated, the RFS captures individuals' past promotion/prevention orientations (e.g., "How often did you obey the rules and regulations that were established by your parents?") whereas the BAS/BIS captures current approach/avoidance orientations (e.g., "I'm not always the person I appear to be") (Haws et al. 2010). Thus, differences between the correlation of promotion-orientation and reputation concern in Pfattheicher's (2015) study and the correlations in my study may be attributed to the slightly different nature of the scales (past vs. present orientation).

negative evaluation by others in narcissistic managers and this, in turn, motivates them to escalate their commitment to an underperforming investment. If so, participants in the high narcissism group should report greater ego-threat after being prompted to consider an outside manager's perspective. Since I did not measure ego-threat, I cannot test this conjecture. To the extent that de Cremer and Tyler's (2005) scale captures participants' heightened reputation concerns in the post-test questionnaire, I examine the association between participants' responses to the scale and *Narcissism* for those in the *Underperforming* group. Results, shown in Figure 7, indicate that the correlation is not statistically significant ($p > .10$).⁸² Alternatively, in the post-test questionnaire, participants indicated the extent to which they felt: (1) their reputation would be damaged by terminating the earbud project, and (2) their career would be damaged by switching projects. Results (untabulated) show there are no statistically significant differences in the correlation between these variables and narcissism, approach/promotion orientation, avoidance/prevention orientation, nor reputation concern (measured using both the self-monitoring scale and the reputation scale) (all $p > .10$).

Since the experimental materials for Phase 2 include a reputation cue immediately after the updated Year 3 financial information, it is unsurprising that participants' responses to the reputation and career damage questions in the post-test questionnaire are not correlated with other measures. That is, participants' responses may have reflected information they read in the case materials rather than being an expression of their heightened reputation concern. Furthermore, theory suggests that individuals escalate to reduce felt cognitive dissonance and restore their positive self-view. While I speculate that a perspective-taking prompt increases the

⁸² Results of the correlation between *Narcissism* and participants' responses to the self-monitoring scale, shown in Figure 7, indicate that narcissistic managers tend to monitor their behaviour ($r = 0.53, p < .001$) and suggests that narcissists have higher global reputation concerns than that of non-narcissistic managers.

saliency of an audience for narcissistic managers and thus increases their felt cognitive dissonance and justification needs, escalation would diminish the experienced ego-threat. Consequently, after indicating their willingness to continue supporting an underperforming project, their felt dissonance would be reduced and any subsequent measures of ego-threat may not be able to detect the ego-threat narcissistic managers felt immediately before making their reinvestment decision. Thus, although I do not find an effect of increased reputation concern (as a measure of ego-threat) among narcissistic managers in the *Perspective-taking* prompt present group relative to the prompt absent group, they may have felt heightened ego-threat just prior to making their reinvestment decision and the post-test questionnaire is unable to detect it.

While prior research finds that prevention-oriented individuals have greater reputational concerns, participants in my study did not exhibit that effect. In fact, I find evidence indicating that individuals with an approach/promotion orientation are more concerned with their reputation. Furthermore, results shown in Figure 7 and discussed in footnote 82 suggest that narcissistic managers have higher global reputation concerns. Combined, these results suggest that prompting narcissistic managers to consider an outside managers' perspective increases the saliency of the potential to be negatively evaluated by others and this heightens their need to protect their positive self-view both to themselves and to others. Thus, narcissistic managers prompted to engage in perspective-taking exhibit greater escalation tendencies.

Chapter 5: Conclusion

5.1 Overview

In Section 5.2 of this chapter, I discuss limitations of my study and opportunities for future research. Lastly, in Section 5.3, I discuss the contribution of my study and provide concluding remarks.

5.2 Limitations and Future Research Opportunities

As with all studies, mine is subject to various limitations that provide opportunities for future research. First, the lack of a direct measure of ego-threat prior to participants making their reinvestment decision prevents me from assessing whether the perspective-taking prompt heightened narcissistic managers' felt cognitive dissonance and justification needs. Thus, I must speculate why perspective-taking backfired for those participants. Future research could focus specifically on narcissistic managers' felt cognitive dissonance to determine why perspective-taking increases their commitment to an underperforming project. Understanding how narcissists respond to a perspective-taking prompt could help to inform organizations about potential negative consequences of perspective-taking as management control intended to improve managers' decision-making.

In Phase 1, I measured participants' narcissism and examined its impact on managers' escalation tendencies. Given the null result of Hypothesis 1, future research could examine whether narcissists are sensitive to the potential returns of various alternative investments. That is, the expected return of the alternative project in this study may not have been high enough to motivate narcissistic managers to switch investments. To investigate this, future research could examine varying IRR's of alternative projects and assess whether narcissistic managers are willing to abandon an initial investment as the IRR of alternative investments increases.

As discussed in footnote 69, participants in this study have lower narcissism scores than participants in other studies and, as discussed in footnotes 71 and 74, results of the statistical analysis may be sensitive to the categorization of participants as having high or low narcissism. In Phase 1, I measured participants' narcissism and use the data to examine the impact on managers' escalation tendencies and the interaction with perspective-taking. Since prior research finds that individuals' state narcissism may be manipulated (either increased or decreased) (Kausel et al. 2015), future research could manipulate participants' narcissism and examine the hypotheses proposed in my thesis.

5.3 Conclusion

I believe that my study contributes to academic literature in several ways. As far as I am aware, my study is the first to examine the relationship between narcissism and managers' commitment to a poorly performing investment. By examining the impact of narcissism on managers' escalation of commitment, I add to the growing accounting literature exploring the effect of managers' personality traits on their judgments and actions within organizations and their response to accounting information. As noted by the Chartered Global Management Accounting (CGMA) group (2016), the usefulness of financial data supporting an organization's strategic success is limited. The CGMA organization emphasizes the need to "focus on the human dimension – how people process information, learn, create knowledge and make decisions" (19). To that end, the CGMA group maintains that organizations need to better understand how the motivations of managers and employees impacts decision making and then revisit how those factors impact the financial performance of the firm. Furthermore, Young et al. (2016) argue, there is a growing need to understand how the behaviours of narcissists differ from those of non-narcissists in the workplace so that effective controls can be designed that

“simultaneously minimize a narcissist’s liabilities and maximize his or her assets” (44). My study is a first step to examine how narcissists’ capital reinvestment decisions may differ from those of non-narcissists. Although I did not find a direct effect of managers’ narcissism on their continued support of an underperforming project, the unexpected interaction with perspective-taking suggests there is a complex relationship among managers’ narcissism, perspective-taking and their sensitivity to accounting information that can be examined in future research.

My study also contributes to the perspective-taking research demonstrating that such prompts, in some circumstances, may ironically exacerbate the very behaviour it is designed to curtail. Although accounting researchers generally find that perspective-taking is associated with positive outcomes (e.g., Altiero et al. 2019; Hamilton 2016; Mayorga and Trotman 2016), my study indicates that this effect is not universal. The unexpected finding that narcissistic managers *increase* their escalation when prompted to engage in perspective-taking suggests that firms considering implementing perspective-taking as a management control may not see the expected benefits. Rather than reduce managers’ escalation tendencies, my study indicates that the perspective-taking prompt suggested by Staw and Ross (1987b) may intensify managers’ commitment to an underperforming project when the prompt itself triggers ego-threat. Overall, my thesis demonstrates that perspective-taking as a control for reducing managers’ felt ego-threat and increasing their attention to alternative investments, may, in some circumstances, exacerbate managers’ escalation tendencies. Thus, the findings in my study highlight the complexity of developing effective management controls for narcissistic managers and underscores the importance of researchers taking managers’ personalities into consideration when such designing controls.

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Appendix A
Escalation of Commitment Empirical Research (adapted from Slesman et al. 2012)

| Determinant | Relationship to Escalation | Theoretical Underpinning | Description | References |
|---|----------------------------------|------------------------------------|--|---|
| <i>Project determinants: Determinants that are “objective features of a project” (Staw and Ross 1987a, 44) that influence one’s assessment of an investments viability and its perceived value.</i> | | | | |
| Preference for an initial decision | Positive | Subjective expected utility theory | Decision-makers simply prefer their initial choice and do not sufficiently adjust for negative feedback. | Schulz-Hardt et al. (2009) |
| Information ambiguity | Positive | Subjective expected utility theory | Escalation is a rational response to the presence of equivocal information. Providing unambiguous feedback (e.g., of past expenditures, progress reports, or future benefits of additional expenditures) reduces escalation. | Berg et al. (2009); Bowen (1987); Bragger et al. (2003); Cheng et al. (2003); Ghosh (1997); Heath (1995); Parks and Conlon (1990) |
| Real options analysis | Negative | Subjective expected utility theory | Using real options, the viability of project abandonment is more salient and reduces escalation. | Denison (2009); Chulkov and Desai (2008) |
| Opportunity cost information | Negative | Subjective expected utility theory | People fail to consider opportunity costs. By making them more explicit, opportunity cost information provides a benchmark for assessing the viability of additional resources allocations and reduces escalation. | Northcraft and Neale (1986); Keil, Mixon, Saarinen and Tuunainen (1994) |

Psychological determinants: Determinants that impact the cognitive and affective decision-making processes of individuals.

| | | | | |
|--|----------|---------------------------|---|--|
| Sunk costs/Time investments | Positive | Self-justification theory | Higher sunk costs or greater time investments triggers self-justification pressure to not appear wasteful and increases individuals' escalation tendencies. | Arkes and Blumer (1985); Barsky and Zyphur (2016); Friedman et al. (2007); Garland and Newport (1991) |
| Personal responsibility for the initial decision | Positive | Self-justification theory | Personality responsibility for the initial decision heightens the threat of investment failure and triggers self-justification needs. This may trigger individuals' need to protect their self-identity and increase their escalation tendencies. | Arkes and Blumer (1985); Bazerman et al. (1984); Brockner et al. (1986); Hatfield et al. (2011); Kirby and Davis (1998); Rennekamp et al. (2015); Schaubroeck and Williams (1993); Schulz and Cheng (2002); Staw (1976); Staw and Fox (1977) |
| Self-efficacy /confidence | Positive | Self-justification theory | Individuals high in self-efficacy and/or confidence discount negative feedback and believe they can overcome potential problems. | Ronay et al. (2017) |

Appendix A continued

| Determinant | Relationship to Escalation | Theoretical Underpinning | Description | References |
|---|----------------------------|---------------------------|--|--|
| <i>Psychological determinants continued</i> | | | | |
| Ego-threat | Positive | Self-justification theory | Ego-threat enhances reputation concern and triggers self-justification needs. | Zhang and Baumeister (2006) |
| Proximity to completion | Positive | Goal substitution theory | As the end of the project nears, the goal of completing a project is substituted for the original project success goals. | Conlon and Garland (1993); Garland and Conlon (1998) |
| Optimism | Positive | Optimism bias | Optimism about future benefits/returns increases escalation. | Juliusson (2006); Meyer (2014) |
| Hurdle rates | Negative | Self-justification theory | Self-set hurdle rates create a psychological contract between the decision-maker and the hurdle rate (individuals become committed using to the hurdle rate). Upon receiving negative feedback, individuals compare performance to the hurdle rate and, due to their commitment to using the rate, are less likely to escalate. | Cheng et al. (2003) |
| Self-certification | Positive /Negative | Self-justification theory | Managers who self-certify that they have considered all the available alternatives become committed to the certification. In a first round of negative feedback, self-certification reduces escalation; however, those that persist are more likely to continue escalating after receiving a second round of negative feedback. | Ang and Cheng (2016) |
| Self-esteem | Positive /Negative | Self-justification theory | Individual high in self-esteem have high global self-worth and use those resources to alleviate the ego-threat triggered by negative feedback. | Sivanathan et al. (2008); |
| Experience /expertise | Positive /Negative | Self-justification theory | Experience or expertise may impact individuals' escalation decisions. Individuals with greater work experience are more likely to recognize that a failing endeavour should be abandoned. However, opportunity cost information is not incorporated into GAAP, thus individuals with greater accounting knowledge are less likely to incorporate opportunity costs into their decision and are subsequently more likely to escalate. | Garland et al. (1990); Vera-Muñoz (1998) |

Appendix A continued

| Determinant | Relationship to Escalation | Theoretical Underpinning | Description | References |
|--------------------|-----------------------------------|---------------------------------|--------------------|-------------------|
|--------------------|-----------------------------------|---------------------------------|--------------------|-------------------|

Psychological determinants continued

| | | | | |
|---------|--------------------|-----------------|---|--|
| Framing | Positive /Negative | Prospect theory | Individuals are risk-seeking in the domain of losses. Given a choice between persisting with a failing course of action (uncertainty) and accepting a certain loss, escalation is the riskier option and individuals escalate in an attempt to recoup losses. | Schoorman, Mayer, Douglas and Hetrick (1994) |
|---------|--------------------|-----------------|---|--|

Social determinants: Determinants that capture the influence other's have on one's decision to escalate.

| | | | | |
|----------------------------|--------------------|---------------------------|---|--|
| Monitoring/ accountability | Positive /Negative | Self-presentation theory | Increased monitoring or accountability encourages decision-makers to be vigilant when assessing whether or not to escalate and reduces their escalation; Increased monitoring triggers justification needs and increases individuals' escalation tendencies. | Bobocel and Meyer (1994); Conlon and Wolf (1980); Kirby and Davis (1998); McNamara, Moon, and Bromiley (2002); Moser et al. (2013); Simonson and Staw (1992) |
| Reputation concerns | Positive | Self-presentation theory | Individuals who perceive that project abandonment signals a lack of competence to others are motivated to escalate as a means of managing the impression others have of them and protecting their reputation. | Brockner et al. (1981); Kadous and Sedor (2004); Kanodia et al. (1989); Seybert (2010); |
| Group decision-making | Negative | Self-justification theory | The diffusion of responsibility among group members reduces the threat of negative feedback and reduces escalation tendencies of groups relative to individuals. When expecting to justify reinvestment decisions, groups exhibit similar escalation tendencies as individuals. | Whyte (1991, 1993); Smith et al. (1998) |

Structural determinants: Determinants that are features of an organization that impact an individuals' reinvestment decision, such as the political costs associated with withdrawal and administrative inertia.

| | | | | |
|-----------------------|----------|---------------|---|--|
| Information asymmetry | Positive | Agency theory | When decision-makers possess private information and have an incentive to shirk (e.g., possible job promotion for successfully managing a project) they act more self-interestedly and escalate at the expense of the organization. | Berg, et al. (2009); Harrell and Harrison (1994); Harrison and Harrell (1993); Kanodia et al. (1989) |
|-----------------------|----------|---------------|---|--|

Appendix B

Experimental Materials

Please note that the following provides a summary of the experimental materials presented to participants. Subheadings in bold italics are intended to guide the reader through the materials and were not presented to participants.

Phase 1 – Pre-screen used in Prolific to provide information about the research study

Project Investment Decisions

My name is Andrea Stapleton and you are invited to participate in a study about individuals' project investment decisions which is being conducted as part of my PhD research. This study will extend previous research by looking at factors influencing individuals' project investment decisions.

Participants provide their consent to participate and proceed to the following pre-screening validation question.

Which of the following best describes your role at work? Your response to this question is mandatory.

- Upper Management
- Trained Professional
- Middle Management
- Skilled Laborer
- Junior Management
- Consultant
- Administrative Staff
- Temporary Employee
- Support Staff
- Researcher
- Student
- Self-employed/Partner
- Other

The following questions are intended to gather demographic information which will be used to describe participants of the study. While responses are not mandatory, your identity will be kept confidential.

Your gender:

- Male
- Female
- Other
- Decline to respond

Please indicate your age (numeric): _____

Participants are asked to complete Raskin and Terry's (1988) NPI scale.

Please read each pair of statements below and choose the one that comes closest to describing your feelings and beliefs about yourself. You may feel that neither statement describes you well, but pick the one that comes closest. Please complete all pairs.

| | | |
|----|-----------------------|--|
| 1 | <input type="radio"/> | A. I have a natural talent for influencing people. |
| | <input type="radio"/> | B. I am not good at influencing people. |
| 2 | <input type="radio"/> | A. Modesty doesn't become me. |
| | <input type="radio"/> | B. I am essentially a modest person. |
| 3 | <input type="radio"/> | A. I would do almost anything on a dare. |
| | <input type="radio"/> | B. I tend to be a fairly cautious person. |
| 4 | <input type="radio"/> | A. When people compliment me I sometimes get embarrassed. |
| | <input type="radio"/> | B. I know that I am good because everybody keeps telling me so. |
| 5 | <input type="radio"/> | A. The thought of ruling the world frightens the hell out of me. |
| | <input type="radio"/> | B. If I ruled the world it would be a better place. |
| 6 | <input type="radio"/> | A. I can usually talk my way out of anything. |
| | <input type="radio"/> | B. I try to accept the consequences of my behavior. |
| 7 | <input type="radio"/> | A. I prefer to blend in with the crowd. |
| | <input type="radio"/> | B. I like to be the center of attention. |
| 8 | <input type="radio"/> | A. I will be a success. |
| | <input type="radio"/> | B. I am not too concerned about success. |
| 9 | <input type="radio"/> | A. I am no better or worse than most people. |
| | <input type="radio"/> | B. I think I am a special person. |
| 10 | <input type="radio"/> | A. I am not sure if I would make a good leader. |
| | <input type="radio"/> | B. I see myself as a good leader. |
| 11 | <input type="radio"/> | A. I am assertive. |
| | <input type="radio"/> | B. I wish I were more assertive. |
| 12 | <input type="radio"/> | A. I like to have authority over other people. |
| | <input type="radio"/> | B. I don't mind following orders. |
| 13 | <input type="radio"/> | A. I find it easy to manipulate people. |
| | <input type="radio"/> | B. I don't like it when I find myself manipulating people. |
| 14 | <input type="radio"/> | A. I insist upon getting the respect that is due me. |
| | <input type="radio"/> | B. I usually get the respect that I deserve. |
| 15 | <input type="radio"/> | A. I don't particularly like to show off my body. |
| | <input type="radio"/> | B. I like to show off my body. |
| 16 | <input type="radio"/> | A. I can read people like a book. |
| | <input type="radio"/> | B. People are sometimes hard to understand. |
| 17 | <input type="radio"/> | A. If I feel competent I am willing to take responsibility for making decisions. |
| | <input type="radio"/> | B. I like to take responsibility for making decisions. |
| 18 | <input type="radio"/> | A. I just want to be reasonably happy. |

| | | |
|----|--|---|
| | <input type="radio"/> | B. I want to amount to something in the eyes of the world. |
| 19 | <input type="radio"/> <input type="radio"/> | A. My body is nothing special. B. I like to look at my body. |
| 20 | <input type="radio"/> <input type="radio"/> | A. I try not to be a show off. B. I will usually show off if I get the chance. |
| 21 | <input type="radio"/> <input type="radio"/> | A. I always know what I am doing. B. Sometimes I am not sure of what I am doing. |
| 22 | <input type="radio"/> <input type="radio"/> | A. I sometimes depend on people to get things done. B. I rarely depend on anyone else to get things done. |
| 23 | <input type="radio"/> <input type="radio"/> | A. Sometimes I tell good stories. B. Everybody likes to hear my stories. |
| 24 | <input type="radio"/> <input type="radio"/> | A. I expect a great deal from other people. B. I like to do things for other people. |
| 25 | <input type="radio"/> <input type="radio"/> | A. I will never be satisfied until I get all that I deserve. B. I take my satisfactions as they come. |
| 26 | <input type="radio"/> <input type="radio"/> | A. Compliments embarrass me. B. I like to be complimented. |
| 27 | <input type="radio"/> <input type="radio"/> | A. I have a strong will to power. B. Power for its own sake doesn't interest me. |
| 28 | <input type="radio"/> <input type="radio"/> | A. I don't care about new fads and fashions. B. I like to start new fads and fashions. |
| 29 | <input type="radio"/> <input type="radio"/> | A. I like to look at myself in the mirror. B. I am not particularly interested in looking at myself in the mirror. |
| 30 | <input type="radio"/> <input type="radio"/> | A. I really like to be the center of attention. B. It makes me uncomfortable to be the center of attention. |
| 31 | <input type="radio"/> <input type="radio"/> | A. I can live my life in any way I want to. B. People can't always live their lives in terms of what they want. |
| 32 | <input type="radio"/> <input type="radio"/> | A. Being an authority doesn't mean that much to me. B. People always seem to recognize my authority. |
| 33 | <input type="radio"/> <input type="radio"/> | A. I would prefer to be a leader. B. It makes little difference to me whether I am a leader or not. |
| 34 | <input type="radio"/> <input type="radio"/> | A. I am going to be a great person. B. I hope I am going to be successful. |
| 35 | <input type="radio"/> <input type="radio"/> | A. People sometimes believe what I tell them. B. I can make anybody believe anything I want them to. |
| 36 | <input type="radio"/> <input type="radio"/> | A. I am a born leader. B. Leadership is a quality that takes a long time to develop. |
| 37 | <input type="radio"/> <input type="radio"/> | A. I wish somebody would someday write my biography. B. I don't like people to pry into my life for any reason. |
| 38 | <input type="radio"/> <input type="radio"/> | A. I get upset when people don't notice how I look when I go out in public. B. I don't mind blending into the crowd when I go out in public. |
| 39 | <input type="radio"/> <input type="radio"/> | A. I am more capable than other people. B. There is a lot that I can learn from other people. |
| 40 | <input type="radio"/> <input type="radio"/> | A. I am much like everybody else. B. I am an extraordinary person. |

Participants complete a filler task (estimation task) and then Carver and White's (1994) Behavioral Inhibition System/Behavioral Activation Scale. Participant's responses are captured using a 4-point scale with 1 = "Very True For Me" and 4 = "Very False For Me". Note that items number 1, 6, 11, and 17 are fillers. Items other than 2 and 22 are reverse-scored. BIS-related is measured using items 2, 8, 13, 16, 19, 22, and 24. All other items measure three dimensions of BAS (BAS Drive, BAS Fun, and BAS Reward Responsiveness). To compute individuals BIS and BAS scores, items in each subset are summed.

Please read each statement shown below and select one response on each row to indicate the extent to which you agree or disagree with the statement.

1. A person's family is the most important thing in life.
2. Even if something bad is about to happen to me, I rarely experience fear or nervousness.
3. I go out of my way to get things I want.
4. When I'm doing well at something I love to keep at it.
5. I'm always willing to try something new if I think it will be fun.
6. How I dress is important to me.
7. When I get something I want, I feel excited and energized.
8. Criticism or scolding hurts me quite a bit.
9. When I want something I usually go all-out to get it.
10. I will often do things for no other reason than that they might be fun.
11. It's hard for me to find the time to do things such as get a haircut.
12. If I see a chance to get something I want I move on it right away.
13. I feel pretty worried or upset when I think or know somebody is angry at me.
14. When I see an opportunity for something I like I get excited right away.
15. I often act on the spur of the moment.
16. If I think something unpleasant is going to happen I usually get pretty "worked up."
17. I often wonder why people act the way they do.
18. When good things happen to me, it affects me strongly.
19. I feel worried when I think I have done poorly at something important.
20. I crave excitement and new sensations.
21. When I go after something I use a "no holds barred" approach.
22. I have very few fears compared to my friends.
23. It would excite me to win a contest.
24. I worry about making mistakes.

Participants complete a filler task (anagram task) and then Synder and Gangestad's (1986) self-monitoring scale. Items responded in the direction indicated are coded as "1" and are summed for each participant to compute the self-monitoring score. Participants did not see the scoring.

Read each statement below carefully. Select **True** if you think the statement is **TRUE** or select **False** if you think the statement is **FALSE**. You may feel the statement is neither true nor false, but pick the one that comes closest to describing you. **Please complete each statement.**

| |
|---|
| 1. I find it hard to imitate the behavior of other people. (<i>F</i>) |
| 2. At parties and social gatherings, I do not attempt to do or say things that others will like. (<i>F</i>) |
| 3. I can only argue for ideas which I already believe. (<i>F</i>) |
| 4. I can make impromptu speeches even on topics about which I have almost no information. (<i>T</i>) |
| 5. I guess I put on a show to impress or entertain others. (<i>T</i>) |
| 6. I would probably make a good actor. (<i>T</i>) |
| 7. In a group of people I am rarely the center of attention. (<i>F</i>) |
| 8. In different situations and with different people, I often act like very different persons. (<i>T</i>) |
| 9. I am not particularly good at making other people like me. (<i>F</i>) |
| 10. I'm not always the person I appear to be. (<i>T</i>) |
| 11. I would not change my opinions (or the way I do things) in order to please someone or win their favor. (<i>F</i>) |
| 12. I have considered being an entertainer. (<i>T</i>) |
| 13. I have never been good at games like charades or improvisational acting. (<i>F</i>) |
| 14. I have trouble changing my behavior to suit different people and different situations. (<i>F</i>) |
| 15. At a party I let others keep the jokes and stories going. (<i>F</i>) |
| 16. I feel a bit awkward in public and do not show up quite as well as I should. (<i>F</i>) |
| 17. I can look anyone in the eye and tell a lie with a straight face (if for a right end). (<i>T</i>) |
| 18. I may deceive people by being friendly when I really dislike them. (<i>T</i>) |

Phase 1 – Pre-screen used in Prolific to provide information about the research study.

Project Investment Decisions – Phase 2

My name is Andrea Stapleton and you are invited to participate in Phase 2 of a study about individuals' project investment decisions which is being conducted as part of my PhD research. This study will extend previous research by looking at factors influencing individuals' project investment decisions.

Participants provide their consent to participate and proceed to the following screen.

Overall Instructions

- Thank you for agreeing to participate in Phase 2 of this research project! 😊
- Please assume that all information provided to you in this business case is true and accurate, and that all computations are valid, i.e. you do not need to perform any computations yourself.
- Please read the materials carefully and then provide what you believe to be the best answer possible to the questions.
- When making an investment decision, you will have access to the case. Please feel free to take notes on any information you think will be helpful for the follow up questions.

The background information shown below is adapted with permission from Seybert (2010).

Part 1 - Year One

BACKGROUND INFORMATION

The following case presents information on a company. Your task is to review the case materials and make a project investment decision.

Novel-Tek Company

Currently, you are a **Project Manager** at Novel-Tek Company (“Novel-Tek”), a publicly traded manufacturer and marketer of innovative music and audio technologies. Novel-Tek has a passion for producing and designing innovations and attributes its success to its ability to consistently deliver innovative products with features and benefits desired by its customers.

Over the last few years, Novel-Tek has been developing the next-generation of earbuds. After countless iterations, design improvements and acoustical innovations, the company is eager to move beyond research and development into production. Novel-Tek's most recent innovation, the earbuds, are capable of provide crisp sound quality that fit comfortably in the ear, even during intense movement such as exercising.

Unlike traditional earbuds that block all noise, Novel-Tek has designed several versions of earbuds, all of which incorporate Novel-Tek's patented advanced filtering technology. When

activated, the earbuds' noise filters will remove background noise and enable consumers to hear music or callers more clearly. Rather than distort and muffle all sounds, Novel-Tek's earbuds will be able to filter high and low frequencies, thus reducing volume while maintaining proper balance and clarity of sound.

While wearing these earbuds, consumers will be able to stream music and take phone calls hands-free while the noise cancellation technology reduces noise by up to 12 decibels thus protecting users' ears. The earbuds will be able to connect with any device which consumers can use to customize their listening experience. Specifically, users will be able to blend streamed audio with background sounds to find their preferred balance.

Novel-Tek's last product launch was in 2016 and was met with rave reviews. Based on the tremendous success of Novel-Tek's prior innovative and creative wearable products, market participants are expecting big things from Novel-Tek's upcoming earbuds. While Novel-Tek has a reputation for providing quality products, users are highly sensitive to product functionality, such as size, shape, and battery life.

Assume it is now January, 2019 and Novel-Tek has funding available to produce one product. Novel-Tek intends to produce earbuds and there are two possible design variations being considered. While Novel-Tek has a reputation for providing quality products, users are highly sensitive to product functionality, such as size, shape, and battery life.

As the Project Manager overseeing the earbuds project, you are responsible for choosing the design Novel-Tek will produce and overseeing the earbuds project through to the end of the product life cycle.

After reading the background information, participants proceed to the following screen containing a Mini Quiz. Participants who respond incorrectly are redirected out of the study.

Mini Quiz #1

What type of product(s) is Novel-Tek planning on developing?

Headphones

Earbuds

Stereo speakers

Participants who respond correctly continue to the following screen.

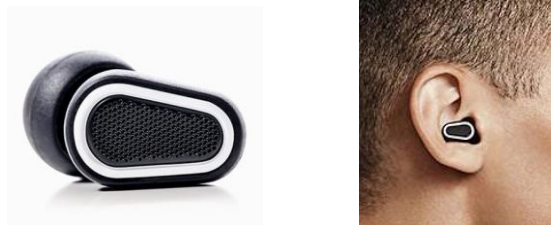
YOUR TASK: You are assigned to review two versions of the earbuds and choose the one your company will produce.⁸³

PROJECT A – COMPACT EARBUD

DESIGN

This version of the earbud includes a rechargeable battery that is both small and light. This battery results in an earbud that is compact and capable of recharging relatively quickly, in under 30 minutes; however, this compact design results in a relatively short battery life, approximately 9 hours of music listening time or 6 hours of talk time.

Here is a picture of a prototype designed by the research division:



Target Market

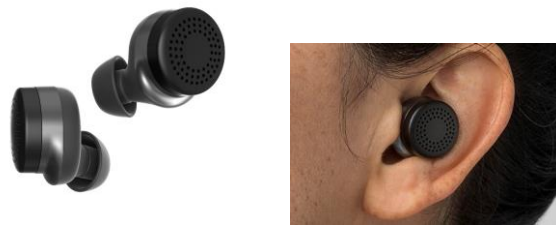
Given the relatively short battery life of the compact earbuds, Novel-Tek anticipates targeting consumers who primarily use the earbuds at home or in their office or during short travel distances. Consumers are able to purchase a portable charging case for charging while on-the-go; however, customers are unable to use the earbuds while they are being charged. Thus the battery life cannot extend beyond 9 hours of music listening time or 6 hours of talk time without being

PROJECT B – LONG BATTERY LIFE

EARBUD

This version of the earbud includes a rechargeable battery that is larger and heavier than the Project A design, yet is comparable to the size and weight of other earbuds currently available in the market. This battery would result in an earbud that is larger and would take longer to recharge, approximately 1 hour; however, the larger design results in a long battery life, approximately 18 hours of music listening time and 12 hours of talk time.

Here is a picture of a prototype designed by the research division:



Target Market

Given the relatively longer battery life of the compact earbuds, Novel-Tek anticipates targeting consumers who use the earbuds at home or in their office or during relatively longer travel distances. Consumers are able to purchase a portable charging case for charging while on-the-go; however, customers are unable to use the earbuds while they are being charged. Thus the battery life cannot extend beyond 18 hours of music listening time or 12 hours of talk time without being

⁸³ Pictured are Dubs™ earbuds from Doppler Labs. Photos are the property of Doppler Labs. Product descriptions are adapted from those of Doppler Labs. Pictures and descriptions of the earbuds are used with permission. This information was provided to participants at the conclusion of the study.

After reviewing the background information, participants proceed to the following screen detailing financial information about the project. The financial information is adopted with permission from Ang and Cheng (2016).

OTHER INFORMATION:

Regardless of which earbud design you choose, the earbud project will require an initial investment of \$1,000,000. Novel-Tek projects that the earbuds will be available for sale in one year and expects to earn \$360,000 per year in net cash flows.

Please find below key information (ignore all tax implications). This information is the same for each earbud design.

| | |
|--|-------------|
| Initial investment (beginning in year 1) | \$1,000,000 |
| Project life | 5 years |
| Expected annual net cash flow (year 1-5) | \$360,000 |
| Expected IRR over project life (years 1-5) | 23.5% |

Project managers at Novel-Tek use Internal Rates of Return (IRR) to evaluate projects. Your company would like all project IRRs to be **15% or higher**.

As a project manager, you are responsible for overseeing many investment projects. The average IRR for your portfolio of investments is currently **17%** (excluding the earbud project).

After reading the about the earbuds designs and the financial information, participants proceed to the following screen containing a Mini Quiz. Participants who respond incorrectly are redirected out of the study.

Mini Quiz #2

Would Novel-Tek support managers selecting a project with an IRR of 17%?

Yes

No

Participants who respond correctly to the Mini Quiz proceed to the following screen in which they make their initial investment decision.

INVESTMENT DECISION

Link to Novel-Tek company background information.

Link to Novel-Tek Project A and Project B information.

Please select the ONE product version you think Novel-Tek should produce using the available funds.

Project A – Compact Earbud Design

Project B – Long Battery Life Earbud Design

After selecting their earbud design, participants learn that time has passed and they receive an update on their investment. Participants in the Project Underperforming group will see the following. All 'Project Update' information is adopted with permission from Ang and Cheng (2016).

Part 2 - Year Three

PROJECT UPDATE

It has been three years since you started Project A – Compact Earbuds (Project B – Long Battery Life Earbuds), and there are still two more years to go. You have put a lot of effort into the earbud project and net cash flows have been declining since year 2, due to unexpected implementation problems. You have also received further information about the future profitability of the earbud project.

You are now conducting a review of the earbud project. You have two options: (1) **continue** the earbud project; or (2) **terminate** the earbud project and invest the funds in another project. Details are explained below:

Option 1: Continue the Earbud Project

If you choose to continue the earbud project, there is a 25% chance that the implementation problems can be resolved, which will result in a project IRR of 20%. However, there is a 75% chance that implementation problems cannot be resolved, in which case the project IRR will be 12%.

Thus the **new expected project IRR of the Earbud Project is 14%**.

Option 2: Termination of the Earbud Project

If you choose to terminate the earbud project, you can invest in another project.

The alternative project involves producing **headphones** that are designed to go over the ear and are designed to include the same innovative technology as the earbuds. The headphones have a battery capable of supporting 9 (18) hours of music listening time or 6 (12) hours of talk time.

The alternative project has a 25% chance of achieving an IRR of 23%, and a 75% chance of achieving an IRR of 15%.

Thus the **expected alternative project IRR is 17%**.

Participants in the Project Adequately Performing group will see the following.

PROJECT UPDATE

It has been three years since you started Project A – Compact Earbuds (Project B – Long Battery Life Earbuds), and there are still two more years to go. You have put a lot of effort into the

earbuds project and net cash flows have been as expected. You have also received further information about the future profitability of the earbud project.

You are now conducting a review of the earbud project. You have two options: (1) **continue** the earbud project; or (2) **terminate** the earbud project and invest the funds in another project. Details are explained below:

Option 1: Continue the Earbud Project

If you choose to continue the earbud project, there is a 25% chance that the project will be more successful than expected, which will result in a project IRR of 25%. However, there is a 75% chance that you will encounter some minor implementation problems, in which case the project IRR will be 23%.

Thus the **new expected project IRR of the Earbud Project is 23.5%**.

Option 2: Termination of the Earbud Project

If you choose to terminate the earbud project, you can invest in another project.

The alternative project involves producing headphones that are designed to go over the ear and are designed to include the same innovative technology as the earbuds. The headphones have a battery capable of supporting 9 (18) hours of music listening time or 6 (12) hours of talk time.

The alternative project has a 25% chance of achieving an IRR of 23%, and a 75% chance of achieving an IRR of 15%.

Thus the **expected alternative project IRR is 17%**.

After reading about the project update, participants proceed with the study and see the following message, adapted with permission from Ang and Cheng (2016).

At Novel-Tek, information about projects is only available to the manager in charge of the project. Therefore, you are the only person with access to information about the earbud project. It is not available to anyone else (unless you choose to disclose this information).

In your industry, managers with a high portfolio IRR are viewed favourably as successful project managers. However, terminating projects prior to completion, such as the earbud project, may signal that the manager is not committed and could negatively impact the manager's reputation.

Perspective-taking Manipulation:

On the screen following the reputation cue, participants in the Perspective-taking Present group see the following. The question contained in the manipulation is from Staw and Ross (1987b) and the instructions following the manipulation are from Wieber et al. (2015).

Manipulation check questions:

Question 1

On the scale below, please indicate the value that best describes how well the Earbud project was performing according to the Year 3 Project Update.

1 ... 2 ... 3 ... 4 ... 5 ... 6 ... 7 ... 8 ... 9 ... 10
Not Well Performing
At All Well
(Earbud project IRR is (Earbud project IRR is
below initial expectations) meeting initial expectations)

Question 2

On the scale below, please use the slider to indicate the degree to which you made a recommendation in Year 3 from:

1 ... 2 ... 3 ... 4 ... 5 ... 6 ... 7 ... 8 ... 9 ... 10
My Own An Outside Manager's
Perspective Perspective

The following two questions were presented on a different screen.

Question 3

On the scale below, please indicate how difficult you found it to work through the case study today?

1 ... 2 ... 3 ... 4 ... 5 ... 6 ... 7 ... 8 ... 9 ... 10
Not difficult Very
at all Difficult

Question 4 (Please tick one box only)

In the case materials, were you required to consider to the reinvestment decision from the perspective of an outside manager?

- Yes
- No

The following section contains the process variables and personality tests participants completed. Each scale was displayed on a different screen. The first two questions were adopted from Seybert (2010) and the remaining three questions were adopted from Ronay et al. (2017).

Process variables:

[1 = Strongly Disagree, 7 = Strongly Agree]

| | |
|----|--|
| 1. | Do you think the project you selected to invest in will succeed? |
| 2. | Do you feel concerned that your reputation would be damaged by terminating the earbud project? |
| 3. | Do you feel your future career would be damaged by switching projects? |
| 4. | Do you feel loyal to the earbud project? |
| 5. | Do you feel guilty abandoning the earbud project? |

NPI-16 (Ames et al. 2006) Narcissism Scale

Read each pair of statements below and choose which the one that comes closest to describing your feelings and beliefs about yourself. You may feel that neither statement describes you well, but pick the one that comes closest. **Please complete all pairs.**

| | |
|-----|--|
| 1. | I really like to be the center of attention. |
| | It makes me uncomfortable to be the center of attention. |
| 2. | I am no better or no worse than most people. |
| | I think I am a special person. |
| 3. | Everybody likes to hear my stories. |
| | Sometimes I tell good stories. |
| 4. | I usually get the respect that I deserve. |
| | I insist upon getting the respect that is due me. |
| 5. | I don't mind following orders. |
| | I like having authority over people. |
| 6. | I am going to be a great person. |
| | I hope I am going to be successful. |
| 7. | People sometimes believe what I tell them. |
| | I can make anybody believe anything I want them to. |
| 8. | I expect a great deal from other people. |
| | I like to do things for other people. |
| 9. | I like to be the center of attention. |
| | I prefer to blend in with the crowd. |
| 10. | I am much like everybody else. |
| | I am an extraordinary person. |
| 11. | I always know what I am doing. |
| | Sometimes I am not sure of what I am doing. |
| 12. | I don't like it when I find myself manipulating people. |
| | I find it easy to manipulate people. |
| 13. | Being an authority doesn't mean that much to me. |
| | People always seem to recognize my authority. |

| | |
|-----|--|
| 14. | I know that I am good because everybody keeps telling me so. |
| | When people compliment me I sometimes get embarrassed. |
| 15. | I try not to be a show off. |
| | I am apt to show off if I get the chance. |
| 16. | I am more capable than other people. |
| | There is a lot that I can learn from other people. |

de Cremer and Tyler's (2005) reputation concern scale:

[1 = Not at all characteristic for me, 5 = Extremely characteristic for me]

Using the scales provided, please use the slider to indicate the extent to which you agree or disagree with the following statements.

Please do not think too long before answering; usually your first inclination is also the best one.

| | |
|----|---|
| 1. | I am rarely concerned about my reputation. |
| 2. | I do not consider what others say about me. |
| 3. | I wish to have a good reputation. |
| 4. | If my reputation is not good, I feel very bad. |
| 5. | I find it important that others consider my reputation as a serious matter. |
| 6. | I try hard to work on my reputation (in my relationships with others). |
| 7. | I find it difficult if others paint an incorrect image of me. |

Meertens et al.'s (2008) risk propensity scale:

[1 = Totally Disagree, 9 = Totally Agree, except item 7, 1 = Risk Avoider, 9 = Risk Taker]

| | |
|----|---|
| 1. | Safety first. |
| 2. | I do not take risks with my health. |
| 3. | I prefer to avoid risks. |
| 4. | I take risks regularly. |
| 5. | I really dislike not knowing what is going to happen. |
| 6. | I usually view risks as a challenge. |
| 7. | I view myself as a . . . |

Schwarzer and Jerusalem's (1995) general self-efficacy scale:

[1 = Not at all true, 4 = Exactly true]

| | |
|----|--|
| 1. | I can always manage to solve difficult problems if I try hard enough. |
| 2. | If someone opposes me, I can find the means and ways to get what I want. |
| 3. | It is easy for me to stick to my aims and accomplish my goals. |

| | |
|-----|---|
| 4. | I am confident that I could deal efficiently with unexpected events. |
| 5. | Thanks to my resourcefulness, I know how to handle unforeseen situations. |
| 6. | I can solve most problems if I invest the necessary effort. |
| 7. | I can remain calm when facing difficulties because I can rely on my coping abilities. |
| 8. | When I am confronted with a problem, I can usually find several solutions. |
| 9. | If I am in trouble, I can usually think of a solution. |
| 10. | I can usually handle whatever comes my way. |

Crowne and Marlow's (1960) social desirability scale. [True or False]

| | |
|-----|--|
| 1. | Before voting I thoroughly investigate the qualifications of all the candidates. |
| 2. | I never hesitate to go out of my way to help someone in trouble. |
| 3. | It is sometimes hard for me to go on with my work if I am not encouraged. |
| 4. | I have never intensely disliked anyone. |
| 5. | On occasion I have had doubts about my ability to succeed in life. |
| 6. | I sometimes feel resentful when I don't get my way. |
| 7. | I am always careful about my manner of dress. |
| 8. | My table manners at home are as good as when I eat out in a restaurant. |
| 9. | If I could get into a movie without paying and be sure I was not seen I would probably do it. |
| 10. | On a few occasions, I have given up doing something because I thought too little of my ability. |
| 11. | I like to gossip at times. |
| 12. | There have been times when I felt like rebelling against people in authority even though I knew they were right. |
| 13. | No matter who I'm talking to, I'm always a good listener. |
| 14. | I can remember "playing sick" to get out of something. |
| 15. | There have been occasions when I took advantage of someone. |
| 16. | I'm always willing to admit it when I make a mistake. |
| 17. | I always try to practice what I preach. |
| 18. | I don't find it particularly difficult to get along with loud mouthed, obnoxious people. |
| 19. | I sometimes try to get even rather than forgive and forget. |
| 20. | When I don't know something I don't at all mind admitting it. |
| 21. | I am always courteous, even to people who are disagreeable. |
| 22. | At times I have really insisted on having things my own way. |
| 23. | There have been occasions when I felt like smashing things |
| 24. | I would never think of letting someone else be punished for my wrongdoings. |
| 25. | I never resent being asked to return a favor. |
| 26. | I have never been irked when people expressed ideas very different from my own. |

| | |
|-----|---|
| 27. | I never make a long trip without checking the safety of my car. |
| 28. | There have been times when I was quite jealous of the good fortune of others. |
| 29. | I have almost never felt the urge to tell someone off. |
| 30. | I am sometimes irritated by people who ask favors of me. |
| 31. | I have never felt that I was punished without cause. |
| 32. | I sometimes think when people have a misfortune they only got what they deserved. |
| 33. | I have never deliberately said something that hurt someone's feelings. |

Demographic Questions

Question #7 shown below is from the experimental materials used in Phillips (1999) and has been included in this study with permission.

The following section is intended to gather demographic information which will be used to describe participants of the study. While responses are not mandatory, your identity will be kept confidential.

Your remuneration will not be affected by your responses to these questions. When answering, we appreciate your honesty.

In the space provided, please answer the following questions.

1. How many accounting courses have you completed? _____
2. How many finance courses have you completed? _____
3. Have you completed an M.B.A.?
 - Yes
 - No
 If yes:
 - In what year did you complete your M.B.A.?
 - Did you complete your M.B.A. courses
 - Online only
 - On-campus only
 - Both online and on-campus
 - Other: please specify
 If no:
 - Are you currently enrolled in an M.B.A. program?
4. How many years of full-time work experience do you have?
5. What type of work experience do you have? (select all that apply)
 - Audit
 - Accounting

- Finance
 - Other (please specify)
6. In your work experience, have you been responsible for any of the following? (select all that apply)
- Overseeing staff
 - Adherence to a budget
 - Making capital budgeting decisions
 - Making project continuation decisions similar to the one presented in this study
7. Were you familiar with Novel-Tek Company or a similar company BEFORE you began this study?
- Yes
 - No
8. Do you own a set of wireless earbuds similar to those shown in this study?
- Yes
 - No
9. To confirm that your responses in the survey are valid, please select disagree for this question.
- Strongly agree
 - Agree
 - Somewhat agree
 - Neither agree nor disagree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
10. Please provide any additional comments you may have with regards to the case and/or the issues presented in the study.

