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Motivation and Feedback Influencing Change in the Goal-Setting Process

Lisa Plant

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Motivation and Feedback Influencing Change in the Goal-Setting Process

by

Lisa Plant

A Thesis
Submitted to the Faculty of Graduate Studies
through Psychology
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the Degree of Master of Arts at the
University of Windsor

Windsor, Ontario, Canada

2012

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AUTHOR'S DECLARATION OF ORIGINALITY

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ABSTRACT

This study explored the influence of performance appraisal feedback (i.e., developmental, evaluative, or no feedback) on task specific motivation and the types of goals (i.e., process, outcome, new and more challenging) participants subsequently set. University students ($N = 159$) took part in a class schedule-making task developed by Earley, 1985. Using two 3 (feedback) X 4 (time) mixed repeated measures design Analyses of Covariance (ANCOVAs) with *task specific* motivation as the dependent variable (analysis 1: intrinsic, analysis 2: extrinsic) and *general* motivation as covariates (analysis 1: intrinsic, analysis 2: extrinsic) it was found that participants given developmental feedback experienced higher task specific intrinsic motivation over time than participants given evaluative feedback. Bivariate correlations also demonstrated that participants with higher task specific intrinsic motivation were found to set more new and challenging goals (discrepancy creation) than participants with lower task specific intrinsic motivation. Theoretical and practical implications are discussed.

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(Philippians 4:11-13)

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CHAPTER I

INTRODUCTION

Work motivation is a central element to performance management in the workplace. Whether or not an individual is highly motivated to work is often indicative of the degree to which employee's work behaviours can be understood and predicted (Forest & Mageau, 2008). Researchers have found that a motivated workforce represents not only a competitive advantage but also a critical strategic asset across all types of work environments (Steers, Mowday, & Shapiro, 2004; Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve 2009). Understanding the factors that influence work motivation is essential in order to ensure that employees are working to meet their potential. Research on the importance of factors such as goals and feedback in relation to motivation in organizational settings is an influential avenue that needs further exploration.

Organizational researchers view employee motivation as an essential building block in the advancement of valuable theories for effective management practice (Steers et al., 2004). Therefore, numerous theories have been advanced in order to better understand the fundamental construct of motivation. The traditional theories of work motivation often explain motivation with a cognitive focus or cognitive explanations for action (Ilies & Judge, 2005). Examples of this type of theory relevant to the current study are control theory (Klein, 1989) and goal-setting theory (Locke & Latham, 1990). These two theories help to better understand and explain the role feedback plays in influencing people's work motivation.

Control theory through its core premise of self-regulation describes the incongruity (or discrepancy) between current performance and ideal performance (Carver

& Scheier, 1982; Kluger & DeNisi, 1998; Powers, 1973) creating the concept of corrective motivation (Campion & Lord, 1982). For example, when people's current performance differs from their ideal performance they will be motivated towards correcting this difference (or incongruity). People are motivated by this incongruity to make plans towards reducing it such as changing the plans, changing the behaviour (e.g., by increasing effort), or giving up on the plans completely (Reeve, 2009). Yet, it is one thing to create a plan but it is another thing to be motivated towards actually carrying out this plan. Similar to making plans, goals often motivate people by concentrating their attention on the discrepancy between one's current level of performance and one's ideal level of performance. However, where control theory is mainly concerned with this discrepancy reduction (Carver & Scheier, 1982; Ilies, 2005), goal theory posits that discrepancy creation is also imperative to the motivational process (Bandura, 1990; Locke, 1991). Discrepancy creation occurs when a goal has been reached and a new or more challenging goal is subsequently then set. Goal-setting theory helps to understand how these new goals are set.

Goal-setting theory is a popular theory of motivation that has been applied primarily to work settings (Locke & Latham, 2002). A goal is an object or outcome one is aiming for, a standard for judging satisfaction (Locke & Latham, 2002), and essentially anything an individual is striving to accomplish (Locke, 1996; Reeve, 2009). The tenets of goal-setting theory indicate that goals are likely more effective when they are achievable, specific, and challenging (Locke & Latham, 1990). The ways in which people achieve their goals vary, often according to people's motivation to participate in the goal-setting process. In the workplace, goals play an important motivating role in

many aspects such as production, performance management, and feedback where the setting of goals is often responsible for the perpetuation of these processes. Previous research on goal-setting theory assumes that the goals individuals have for a specific task will influence what they will do and how well they will do it (Locke & Latham, 1990). An influential body of literature has established that people perform better when goals are in place (Locke, Shaw, Saari, & Latham, 1981). More specifically, research in both laboratory and field settings has substantiated that goal-setting repeatedly shows that people who try to reach specific and challenging goals generally perform better on a given task (Tubbs, 1986) than people who attempt to attain specific but moderate or easy goals, vague goals such as “do your best,” and no goals at all (see Locke, Shaw, Saari & Latham, 1981 for a summary of these studies). Additionally, numerous studies in both the laboratory and field context have repeatedly confirmed that goal-setting positively affects task performance (e.g., Latham & Yukl, 1975; Locke & Latham, 2006; Locke, et al., 1981; Mento, et al., 1987; Roberts & Reed, 1996).

Research has shown that upon receipt of feedback, people will either work harder to meet their goal if feedback indicates it has not been attained (i.e., discrepancy reduction) or create new and more difficult goals if feedback indicates it has been attained (i.e., discrepancy creation) (Campion & Lord, 1982). Researchers have examined the relationship between feedback and goal-setting and demonstrated the importance of looking at different types of feedback when assessing their effect on goal-setting. Using a number comparison task with undergraduate students, Erez (1977) demonstrated that feedback on performance is necessary for goals to improve performance and that what people do with this feedback in terms of further goal-setting demonstrates the effect of

individual differences (i.e., future self-set goals based on the knowledge of individual past performance). Similarly, Earley, Northcraft, Lee, and Lituchy (1990) examined feedback focused on task strategy (process) and feedback focused on task results (outcome) using a stock investment computer simulation with university students. The researchers were looking at how these two types of feedback interact with goal-setting to improve future performance. Process feedback was found to positively influence the number of strategies participants used and the quality of their performance whereas outcome feedback was found to positively influence the degree of effort exerted by the participants. Early et al. (1990) concluded that process and outcome feedback are additive concepts where outcome feedback informs participants that change is necessary and process feedback informs participants on how to go about creating this change.

Studies have also been conducted on how personal goal-setting is affected by initial goals being met and new (and more challenging) goals being created (i.e., discrepancy creation process) (e.g., Phillips, Hollenbeck, & Ilgen, 1996). This discrepancy creation process is prominent in self-efficacy theory whereas the discrepancy reduction process is emphasized in the control theory of work motivation. These researchers found that, while participants performed many trials of intellectual (i.e., verbal and quantitative) tasks, positive discrepancy creation was possible (although it was less likely than discrepancy reduction) and the authors posited that this may have been due to individual differences such as need for achievement, ability and individual expectations of performance level. Because the focus of the study was on how to predict the occurrence of this particular aspect of the goal-setting process, no suggestions were made as to how positive discrepancy creation could be promoted, but future research in

both the promotion and prediction of discrepancy creation and reduction was called for. From this, it has been suggested that researchers should examine the numerous interpretations of how people set goals in more detail to help better explain the effect of goal-setting on motivational processes (Lewalter & Scholta, 2009). This future research should focus on performance appraisals as the source of promotion and prediction of the goal-setting process as they are often responsible for informing the content of people's personal goals.

Performance appraisals are an occasion for supervisors and their employees to review employee performance (Pearce & Porter, 1986) and development and discuss areas that need improvement as well as the support that may be required from supervisors. Performance appraisals have been referred to as feedback interventions because they are used for both evaluative and developmental reasons (e.g., Geister, Konradt, & Hertel, 2006). The developmental function of performance appraisals is often defined as any effort centered on improving an employee's effectiveness through developing skills, attitudes, and experiences (Boswell & Boudreau, 2002). The evaluative function is then defined as information concerning performance outcomes and comparing it to previously set work standards or other employees in the organization. Overall, performance appraisals of employees are conducted to make developmental decisions regarding the ongoing improvement of an employee's performance. They are also used to make administrative or evaluative decisions regarding transferring, retaining, promoting, paying, and/or terminating the person. These evaluative decisions are based on the extent to which the person's performance, in comparison to others, is contributing to the company's organizational strategy (Latham & Budworth, 2005).

In a more recent attempt at studying work motivation with a cognitive focus, Lewalter and Scholta (2009) investigated the extent to which different goals and feedback treatments affected the level of self-determined motivation and situational interest in a computer-based training program. It was found that treatments where goals were present had a positive impact on the self-determined motivation of students and this was made more apparent after the last (of three) lesson suggesting that goals may only have an impact over time. At the end of each lesson, the university students were randomly assigned to one of two feedback treatment groups receiving either informative feedback or no feedback. The authors found that the informative feedback had a negative impact on self-determined motivation, which was contrary to their prediction. A potential explanation for this is that the students may have perceived the informative feedback as controlling and this may have led to a decrease in feelings of autonomy. The researchers then suggested that future research should ensure that informative feedback, which offers the participant clues as to the correctness of their results, be provided in a non-controlling manner. Previous research has demonstrated that when feedback is conveyed in an informational rather than in a controlling way, a person's ensuing performance improves (Zhou, 1998). It is from this line of research that I suggest a developmental function of feedback rather than an evaluative function would have a more favourable impact on individual motivation. Researchers have suggested that more work is needed to explore the informational influences of feedback as they pertain to discrepancies between goal and performance (Earley et al., 1990).

The objective of this study is to determine if additional variables (e.g., motivation) play a role in the transition from feedback function to goal discrepancy creation. It is

then of interest to determine if this motivation, whether it be intrinsic or extrinsic, plays a role in influencing the likelihood that people will set new and more challenging goals (i.e., discrepancy creation). From this, the current study proposes that when a developmental function of feedback is used, intrinsic motivation plays a specific role in the goal-setting process where, it may ultimately influence the actual setting of new more challenging goals. It is also expected that when an evaluative function of feedback is used, extrinsic motivation would become salient. This motivation may also influence the actual setting of new and more challenging goals, although likely different types of goals (i.e., outcome goals) than intrinsically motivated individuals who are expected to set process goals.

CHAPTER II

REVIEW OF THE LITERATURE

Functions of Feedback/Performance Appraisals

Previous research has provided support for why goal-setting and feedback together are widely believed to positively affect performance (Locke, Shaw, Saari, & Latham, 1981). Both goal-setting and feedback play the role of enhancing the information and motivation necessary for work performance (e.g., Earley et al., 1990; Kluger & DeNisi, 1998; Ambrose & Kulik, 1999). Feedback refers to the method in which one is informed of discrepancies (or differences) between one's current performance and the standard. This is often the purpose of performance appraisals in the workplace (Ilies & Judge, 2005; Wood, Bandura, & Bailey, 1990). As such, the primary purpose of the performance appraisal process is actually to feed back information to the employee for counseling and development purposes so that the employee will initiate or continue doing the activities critical to performing effectively on the job (Latham, 1986; Latham & Wexley, 1981). Consequently, feedback is often referred to as a performance appraisal, although it is important to keep in mind that it is the feedback received through performance appraisal activities that is actually being referred to (Deci & Ryan, 1985; Kuvaas, 2006).

Information drawn from performance appraisals has been found to have the greatest impact on two functions namely evaluative and developmental (Cleveland, Murphy & Williams, 1989). The evaluative function gives information concerning performance outcomes (i.e., outcome feedback) and comparing it to previously set work standards or other employees in the organization. The evaluative functions of

performance appraisals include: salary administration, promotion decisions, retention-termination decisions, recognition of individual performance, layoffs, and identification of poor performance (Boswell & Boudreau, 2000; Cleveland et al., 1989). The developmental function is concerned with within-person decisions such as assessing training needs and giving feedback regarding strengths and weaknesses. This feedback serves as information on the way in which an individual implements a work strategy and its ultimate goal is to improve employee effectiveness (Boswell & Boudreau, 2002). Aspects of developmental feedback are similar to the concept of process feedback, which often enables people's performance by helping them to develop effective task strategies (Earley et al., 1990). Implementing the use of better strategies inevitably leads to employee development and ultimately better work performance. Developmental functions of performance appraisals include: identification of individual training needs, providing performance feedback, determining transfers and assignments, identification of individual strengths and weaknesses, and setting goals (Boswell & Boudreau, 2002). Additionally, developmental feedback refers to the extent to which employees experience recognition from feedback that is perceived as clear, relevant, and understandable (Kuvaas, 2007).

Furthermore, research has found that many employees prefer the developmental functions of performance appraisals compared to evaluative functions of performance appraisals (Gosselin, Werner, & Halle, 1997). The authors suggest that a reason for this may be that while feedback with an evaluative function informs employees on how they are performing (in comparison to standards or to others) it often does not inform them on how to improve performance and or further develop their skills. This may then lead to a

frustrating cycle of trial and error for the employee attempting to perform at a higher level. Finally, the employee being given only evaluative feedback may deem feedback simply as an informative result instead of as a motivational tool.

Feedback in and of itself is necessary, but not sufficient, for bringing about and maintaining a behaviour change (Locke & Latham, 1990). Only limited research has looked at employee reactions to performance appraisals or feedback (Dipboye & de Pontbriand, 1981; Jordan & Nasis, 1992; Prince & Lawler, 1986). More recently research has concentrated on worker reactions to appraisal and the social context in which appraisals occur (Keeping & Levy, 2000; Levy & Williams, 2004). It has also been found that employees have more positive reactions to appraisals (e.g., are more satisfied) when they perceive the appraisal as being used for developmental purposes (Boswell & Boudreau, 2000). However, since evaluative needs are necessary for organizational decision-making (e.g., promotions, terminations, and pay distribution), managers are more likely to spend more time giving this type of feedback if having to choose between the two (i.e., developmental or evaluative) (Boswell & Boudreau, 2002).

Ideally—and most common in actual practice—developmental and evaluative feedback are both used in performance appraisals. This is also true of the outcome and process components of feedback (Earley et al., 1990). Previous research has found that feedback exists in a variety of forms (Balcazar, Hopkins, & Suarez, 1986) and generally has two aspects (Geister, et al., 2006). More specifically, the type of feedback one receives is the first aspect and it can be either outcome feedback (i.e., information in relation to performance outcomes/results) or process feedback (i.e., information focused on how one performs a job) (Geister, et al., 2006). The other important aspect is the

purpose of the feedback and that is either evaluative or developmental and has been previously discussed. Where outcome feedback is strictly focused on the results an employee has produced, process feedback is focused on the strategies an employee has implemented. Given that the evaluative function of feedback stems from the results an employee has produced, we can see how the outcome component of feedback is part of evaluative feedback. The same can be said about the process component of feedback being part of the developmental function of feedback given that part of developing an employee is to help them implement better and more efficient strategies.

Lastly, performance appraisal is among one of the most important human resource practices (Boswell & Boudreau, 2002; Judge & Ferris, 1993). Performance appraisal partly represents a formalized process of employee monitoring and is intended to be a management tool to improve the performance and productivity of workers (Cardy & Dobbins 1994; Murphy & Cleveland, 1991). Management, unfortunately, does not always use or even see performance appraisals as a tool for influencing employee motivation (Morris, Davis, Allen, Avila, & Chapman, 1991); they simply evaluate their employees periodically because it is mandated by the company. The reason for this is that managers have failed to recognize that employees' motivation to perform is a function of a successfully achieved (by managers) link between effort, performance, evaluation, and reward (Walker, Churchill, & Ford, 1977). Managers appear to be more concerned with output measures than input measures and consequently focus on giving performance appraisals on output (e.g., bottom line results produced by the employee) instead of understanding and influencing input elements (e.g., effort) (Morris, et al., 1991).

Additionally, many employees express discontent with performance appraisals (Fletcher, 1997) and one reason for this is because the appraisals are not being used as a mechanism for motivating and developing them (Fletcher, 2001). Although researchers have been able to determine that goal-setting within performance appraisal has been associated with greater appraisal satisfaction, higher job satisfaction, and increased performance (Dipboye & de Pontbriand, 1981), the reason why these linkages exist are not well understood. Higher levels of intrinsic motivation have also been found to moderate the relationship between performance appraisal satisfaction and employee outcomes such as performance (Kuvaas, 2006). The opposite was true for those experiencing lower levels of intrinsic motivation. Since the goal of performance appraisals is ultimately to enhance performance, any further study into variables (e.g., motivation) that may influence the relationship between different forms of performance appraisals and task performance is of utmost interest to both academics and practitioners (Kuvaas, 2006).

Intrinsic Motivation

Work motivation is a multifaceted topic in organizational science and to improve the effectiveness of performance management, Latham and Mann (2006) have suggested that the answer may lie in the field of motivation. Intrinsic motivation is the motivation to perform an activity simply for the experience of pleasure and satisfaction inherent in the activity (Gagné & Deci, 2005). Previous literature points to the idea that systematic performance feedback may positively impact intrinsic motivation. This would occur when people receive knowledge of their actual work outcomes, which would increase their level of felt responsibility for these outcomes (Deci & Ryan, 1985). Intrinsic

motivation has been found to positively influence a wide variety of behaviours and psychological processes for which the main rewards are the experiences of competence and autonomy (Deci & Ryan, 1985). Intrinsically motivated employees are more autonomous and self-driven than employees who are less intrinsically motivated (e.g., Ryan & Deci, 2000) since they are motivated by their own interest and are likely to work harder and take on more challenges simply for the experience of pleasure. Additionally, when people are given feedback that recognizes good performance, increased intrinsic motivation through enhancing perceived competence often occurs (Deci & Ryan, 1985).

Many theoretical concepts that deal with intrinsic motivation qualities have been studied; two of which are self-determination (includes choice and autonomy) and competence (Pinder, 1998). Self-determination is a quality of human functioning that involves the experience of choice as well as the experience of an internal perceived locus of causality (where the individual is perceived as the primary source of his or her behaviour) (DeCharms, 1968). Environmental events that provide individuals with choice and the opportunity for self-direction promote greater intrinsic motivation because they lead to a greater sense of autonomy and an internal locus of causality (Swann & Pittman, 1977; Zuckerman, Porac, Lathin, Smith, & Deci, 1978). Therefore, it is important to understand how these environmental events can be introduced in such a way to create these opportunities for intrinsic motivation. One such opportunity may exist in the form of performance appraisals that have a developmental function. Employees receiving developmental feedback through a performance appraisal are encouraged to set their own new goals providing them with an opportunity for choice regarding these goals. Additionally, developmental feedback may prompt individuals towards an internal

perceived locus of causality, as such it is also expected to positively influence intrinsic motivation.

Often, the emotions of enjoyment and excitement accompanying the experiences of competence and autonomy represent the rewards for intrinsically motivated behaviour (Deci & Ryan, 1985). Consistent with the propositions of cognitive evaluation theory, the constructs appear to be interrelated (Gagné & Deci, 2005). Therefore, by measuring constructs such as enjoyment, interest, autonomy, competence, and excitement we are inevitably measuring qualities of intrinsic motivation. Feelings of competence and autonomy are found to be strongly influenced by feedback that has an informative function (e.g., Cordova & Lepper, 1996; Deci, Ryan, & Williams, 1996). Informative feedback is feedback that offers learners precise information referring to the accuracy of the results and it also provides clues for proceeding further (Lewalter & Scholta, 2009). In other words, an informative function of feedback has a developmental approach where the concern with the future success of the individual employee is important. Informative feedback, then, is much like developmental feedback and both terms are often used interchangeably. Accordingly, feedback is also motivating when it includes information about the individual's progress, regardless of a positive or negative result (Deci & Ryan, 1985).

For example, when people are working on an optimally challenging activity they will often make mistakes and get some negative feedback. Yet these people still remain highly intrinsically motivated for these activities. The reason for this is that many people feel challenged by modest amounts of negative feedback, particularly when their perceived locus of causality for the behaviour is internal (i.e., they are solely responsible

for their performance). This means that if managers foster an internal locus of causality, with opportunities for self-determination and autonomy, in their employees they are likely to have a more resilient and determined workforce. Whereas employees with an external perceived locus of causality who receive even small amounts of negative feedback may actually experience a decrease of intrinsic motivation (Deci & Ryan, 1985). This means they are less resilient and often do not persist in the face of challenging feedback.

Additionally, tangible rewards, surveillance, pressured evaluation, and imposed goals have been found to diminish the feeling of autonomy (e.g., Deci, Koestner, & Ryan, 1999; Deci & Ryan, 1987, 2000). Diminished feelings of autonomy will likely then decrease levels of intrinsic motivation. Lastly, given that evaluations diminish feelings of autonomy, it may be that feedback with an evaluative function alone may be detrimental to intrinsic motivation.

Extrinsic Motivation

Self-determination theory sheds valuable light on the study of organizational processes and outcomes (Gagné & Forest, 2008), one of which is the feedback process. The relation between basic needs and feedback has been investigated in various experimental studies based on self-determination theory, and results consistently show that the kind of feedback given is influential (Lewalter & Scholta, 2009; Butler, 1987). Feedback that indicates solely whether an answer is correct or incorrect is perceived as controlling, and often leads to a decrease in feelings of competence and autonomy. This can ultimately result in a decrease of self-determined motivation (Deci, Ryan, & Williams, 1996). This type of feedback is seen as serving an evaluative function where evaluations are the basis for determining whether people are complying with external

demands (Deci & Ryan, 1985). Therefore, evaluations themselves are likely to suggest external control and eventually lead to an undermining of intrinsic motivation (DeCharms, 1968; Deci & Ryan, 1985). However, in this case, extrinsic motivation is more likely to take place since it posits an external locus of causality.

Extrinsic motivation is the drive to engage in an activity mainly as a response to something outside of the actual endeavor, such as recognition or rewards or the dictates of other people (Amabile, Hill, Hennessey, & Tighe, 1994). External controlling events (e.g., money, recognition, and competition) have been found to impair creativity and intrinsic motivation (Deci & Ryan, 1985). When people are extrinsically motivated they tend to do the minimum amount of work that will yield the maximum reward (Deci & Ryan, 1985; Kruglanski, Stein & Rither, 1977). As previously stated, when people are intrinsically motivated, they experience interest and enjoyment. The antithesis of this interest often presents itself in the form of pressure and tension. As long as employees are pressuring themselves, working with great urgency and feeling anxious, it is apparent that extrinsic motivation is present at some level or other (Deci & Ryan, 1985) whether it be from trying to meet deadlines or maintain their reputation. Substantial research in the area of social psychology has been able to determine significant differences between individuals who are extrinsically motivated towards a task in comparison to individuals who are intrinsically motivated. Experiments conducted in laboratory settings have shown that individuals who are extrinsically motivated are more likely to show rigid and impatient behaviour with regards to task engagement (Garbarino, 1975); poorer ability with concept attainment (McCullers & Martin, 1971); impaired complex problem solving (Glucksberg, 1962); poorer incidental learning (Bahrick, Fitts, & Rankin, 1952); and

lower levels of creativity in a variety of tasks (e.g., Amabile, 1985; Amabile & Gitomer, 1984; Amabile, Goldfarb, & Brackfield, 1990; Bartis, Szymanski, & Harkins, 1988).

Extrinsic motivators have also been found to undermine individual's long-term capacity for autonomous self-regulation (Reeve, 2009).

The danger of using external rewards takes place when an external factor or constraint (e.g., reward, recognition, or evaluation) is presented to a person who was working from a highly intrinsic motivation standpoint. This danger would occur when the person then risks making the activity become a means to an end rather than an end in itself (Deci, 1975). Consequently, the activity is no longer done out of pure interest but out of an instrumental intent (i.e., the overjustification effect). This consequence poses certain risks for managers since their employees are less likely to persist at work activities in the absence of external contingencies and less likely to experience interest and enjoyment in the activity in the long run (Deci & Ryan 1985; Orlick & Mosher, 1978). Therefore, promoting extrinsically motivated behaviours should only be introduced with caution into the workplace. Ultimately these behaviours would then lead to lower intrinsic motivation which could perpetuate lower performance standards and quality, interfere with the process of learning (Reeve, 2009) and likely lower satisfaction overall. Although the focus of the current study is on developmental functions of feedback that influence employees intrinsic motivation towards creating new and more challenging goals, it is also expected that evaluative functions of feedback may influence extrinsic motivation. This would occur when evaluative feedback makes more salient the external factors and rewards contingent upon performance and therefore may impact extrinsic motivation.

Lastly, pairing goals with external rewards can have adverse effects. One effect was found in a study demonstrating that people may set easier goals and perform at a lower level when extrinsic rewards are involved and they may also lack continuation towards goal achievement (Shapira, 1976). Also extensive research has concluded that when rewards are used solely to motivate people, they are likely to be experienced as controlling and undermining to intrinsic motivation (see Deci et al., 1999 for a summary of these studies). However, the important point is that rewards, like feedback, when used to convey to people a sense of appreciation for work well done, will tend to be experienced as informational or as contributing to personal development and therefore will maintain or enhance intrinsic motivation. This means verbal rewards such as positive feedback, have been found to enhance intrinsic motivation (e.g., Tang & Hall, 1995; Eisenberger & Cameron, 1996; Cameron & Pierce, 1994). Therefore, the function of feedback influences the type of motivation people experience, which ultimately could affect the way in which they set their future goals.

In order to foster intrinsic motivation and to ensure employees are working from an internal perceived locus of causality, opportunities for self-determination (i.e., choice) and for the development of competence need to be in place. With the help of useful feedback or performance appraisals with a developmental function, managers are likely to become providers of such opportunities and therefore promote employee productivity. Because goals and feedback go hand in hand, employees that are receiving developmental feedback, and who are consequently more intrinsically motivated are likely to be involved in continuous goal-setting.

Goal-Setting

It has been found that neither goals nor feedback are very effective without the other and together they lead to higher performance than either one alone (e.g., Becker, 1978; Erez, 1977; Locke & Latham 1990; Reber & Wallin, 1984; Strang, Lawrence & Fowler, 1978; Tubbs, 1986). The combined benefit of goals and feedback is attributable to their fulfilling different but essential functions where goals are responsible for directing and motivating behaviour and feedback is responsible for enabling the knowledge of progress in relation to the goal (Ambrose & Kulik, 1999; Locke & Latham, 1990). Additionally, researchers have determined that feedback indicating progress in relation to a goal is a necessary condition for goals to lead to higher performance (Locke, et al., 1981).

The relationship between goals and feedback is multifaceted. With regard to feedback, goals have been found to be a mediator between feedback and performance as goals are one of the key mechanisms by which feedback gets translated into action (Locke, et al., 1968). With respect to goals, on the other hand, feedback is thought to play the role of a moderator since goals regulate performance more reliably when feedback is present than when it is absent (Locke et al., 1981). In general, people with goals outperform those without goals, although it is important to keep in mind that goal effects will naturally be mediated by knowledge and ability to perform (Locke, 2000; Locke & Latham, 2005). Briefly, goal-setting theory specifies that individuals must be committed to their goals, possess sufficient ability and self-efficacy in relation to the task, and that feedback is provided with respect to progress toward the goal (Wood & Locke, 1990). Additionally, previous research has demonstrated that groups receiving feedback

combined with goal-setting perform better than groups receiving only goal-setting and that this combination is an influential variable in determining the motivational level of employees (e.g., Kim & Hammer, 1976). It is also important to recognize what type of goal one sets for the goals to translate into performance gains (Locke & Latham, 1990) and how feedback affects these goals. Therefore, it is essential to understand the mechanism that is influential between the goal-setting process and feedback in order to recognize what leads individuals to set appropriate goals for themselves.

This being said, the current study is not examining all tenets of goal-setting theory since the theory comes with a few aspects to take in consideration. First, the theory has been developed mainly within the areas of business, management, and sales where the bottom line (i.e., profit) has been the focus (Reeve, 2009). Therefore, the theory concentrates on enhancing employees' work performance (i.e., output) regardless of whether this actually leads to developing the employee or enhancing motivation. A second and noteworthy caution is that goal-setting has been found to work best with tasks that are generally uninteresting and straightforward (e.g., manual tasks such as assembling nuts and bolts or typing) where goal-setting provides the motivation that the task itself inherently cannot (given its repetitive nature often leading to boredom) (Reeve, 2009). Studies have shown that feedback in and of itself does not motivate performance directly; feedback motivates action only indirectly, through its relationship to goal-setting (Locke & Latham, 1990). When employees do not receive as much feedback as they desire they may be unsure how exactly to apply this limited feedback which decreases, in turn, the application of setting clear goals (Kluger & DeNisi, 1998).

Not only is the way in which people set their future goals important but also determining the types of goals they set are essential as they may be indicative of their type of motivation. For example, if people receive developmental feedback focused on the way in which they are performing (i.e., the process) it is expected that they are likely to set a goal reflecting this feedback, that is, a process goal. Whereas if people are given evaluative feedback focused on the results of their performance (i.e., the outcome) it is expected that they are likely to set a goal reflecting this, that is, an outcome goal. That being said, no clear connection appears to have been made between type of feedback and type of goal. Given the similarities between evaluative and developmental feedback to process and outcome feedback (Earley et al., 1990) a connection can potentially be made between type of feedback and expected goal content.

Discrepancy Creation and Reduction: Seeking an Optimal Challenge

Not only is goal content important for initiating motivation but it is also important for increasing it. Researchers have found that the intrinsic motivational needs for competence and self-determination keep people involved in ongoing cycles of seeking and conquering optimal challenges (e.g., Danner & Lonky, 1981). A challenge is something that requires stretching one's abilities or trying something new which often results in creating a discrepancy (i.e., between current performance and ideal performance) in the goal-setting process (Bandura, 2001). It has also been found that goals may be raised naturally after success, since previously mastered levels of performance typically become less satisfying over time. However, these results do not address factors that lead individuals to raise goals upon receipt of feedback. Possible factors may include the function of the feedback and individuals' type of motivation

Previous research has demonstrated that participation in the goal-setting process and feedback increase performance appraisal acceptance, which affects appraisal satisfaction and ultimately employee motivation, and productivity (Kuvaas, 2006; Roberts & Reed, 1996; Tubbs, 1986). That being said, goal-setting theory acknowledges that there exists a curvilinear relationship between the degree of goal difficulty and performance (Locke & Latham, 1990). This means that effort will increase most when the task is moderately difficult and that effort will increase the least when the task is either very easy or very hard (Locke & Latham, 2002). To understand this goal difficulty effect is to realize that specific and challenging goals most often lead to greater effort, choice and persistence (Latham & Mann, 2006) than easy goals, assuming the goals have been accepted (Latham, Locke, & Fassin, 2002). Thus, challenging goals eventually make self-satisfaction dependent on a higher level of performance than easy goals (Wood, Bandura, & Bailey, 1990), which is ultimately what managers likely want to see in their employees. However, it is important to note that when maximum ability has been reached, higher levels of difficulty are likely no longer attainable.

As such, goals generate motivation by focusing people's attention on remedying the discrepancy (or incongruity) between their present level of accomplishment and their ideal level of accomplishment (Locke & Latham, 1990). This concept is referred to as the goal-performance discrepancy (Wood, Bandura, & Bailey, 1990) where the difference between one's current performance and one's desired performance (i.e., goal) is under scrutiny. Discrepancy-reduction corresponds to the plan-based corrective motivation, as previously mentioned, and is a reactive and deficiency overcoming construct. The reason for this is that only when a discrepancy is detected through a feedback system does the

reduction come into play (Reeve, 2009). Discrepancy-creation, on the other hand, is linked to goal-setting motivation and is a proactive and growth pursuing construct (Bandura, 1990; Reeve, 2009). It is important to note that discrepancy-creation may be an individual's initial response once a first goal has been attained. In the long term, reduction is likely to occur as the individual attempts to reach a subsequent goal. This means that discrepancy creation and reduction can be understood as constituents of a cyclical process and not as two separate unrelated processes. The current study is primarily interested in this initial response.

Current Study

Lastly, previous research has found that different kinds of feedback (e.g., comments including reinforcement and goal setting tailored to participant performance, grades, and praise) seem to promote different motivational orientations albeit this research was done with children and therefore an older population is necessary to further investigate this relationship (Butler, 1987). It has been suggested that when people perceive that the appraisal is being framed as an investment in employee development they are likely to be more intrinsically motivated to improve (Kuvaas, 2006). Therefore, the present study investigated if people's intrinsic and extrinsic motivation was affected by receiving developmental or evaluative performance appraisal feedback and whether any feedback was better than no feedback at all. Additionally, previous research has suggested that experiments with feedback conditions need to take into account that people may only take into consideration feedback over time (Fredenburg, Lee, & Solmon, 2001) and therefore the following hypothesized effects are expected to take place over time.

Based on the presented literature review and previous studies in this area of work, I hypothesize that:

Hypothesis 1a) Individuals who receive developmental feedback will experience higher levels of task specific intrinsic motivation over time compared to both individuals who receive evaluative feedback, and 1b) individuals who do not receive any feedback and 1c) Individuals who receive evaluative feedback will experience higher levels of task specific intrinsic motivation over time compared to individuals who do not receive any feedback.

From this, and more specifically, I expect that the form of this interaction will demonstrate that: *1a) Individuals who receive developmental feedback will experience higher levels of task specific intrinsic motivation over each time trial compared to individuals who receive evaluative feedback, 1b) Individuals who receive developmental feedback will experience higher levels of task specific intrinsic motivation over each time trial compared to individuals who do not receive any feedback and 1c) Individuals who receive evaluative feedback will experience higher levels of task specific intrinsic motivation over each time trial compared to individuals who do not receive any feedback.*

Previous research has found that different kinds of feedback involving reinforcement, praise, and goal-setting seem to promote different motivational orientations (Butler, 1987). Given that evaluative feedback gives information concerning performance outcomes and compares it to previously set work standards or other people's performance, it orients the individual towards external influences. From this, evaluative feedback may prompt individuals towards an external perceived locus of causality and consequently increase individuals' level of extrinsic motivation since it is tied to external

rewards and comparisons to others. Additionally, the previous assumption that any feedback may be more motivating (intrinsically and extrinsically) than no feedback is also applied here. Therefore, it is also hypothesized that:

Hypothesis 2a) Individuals who receive evaluative feedback will experience higher levels of task specific extrinsic motivation over time compared to both individuals who receive developmental feedback, and 2b) individuals who do not receive any feedback; and 2c) Individuals who receive developmental feedback will experience higher levels of task specific extrinsic motivation over time compared to individuals who do not receive any feedback.

More specifically, it is expected that the form of this interaction will demonstrate that: 2a) Individuals who receive evaluative feedback will experience higher levels of task specific extrinsic motivation over each time trial compared to individuals who receive developmental feedback, 2b) Individuals who receive evaluative feedback will experience higher levels of task specific extrinsic motivation over each time trial compared to individuals who do not receive any feedback, and 2c) Individuals who receive developmental feedback will experience higher levels of task specific extrinsic motivation over each time trial compared to individuals who do not receive any feedback.

Considerable research supports the conclusion that developmental performance appraisals increase employee work motivation (Jordan & Nasis, 1992). Specifically, feedback has been found to moderate the relationship between goal-setting and performance where goal-setting of participants was related to improved performance but only for those who had received feedback (Erez, 1977). As previously mentioned, research has found that feedback and participation in goal-setting ultimately increase

employee motivation (e.g., Roberts & Reed, 1996). One of the goals of the current study is to determine if performance appraisals can, in fact, be used as motivators for goal-setting. Based on previous research it is expected that people who are given developmental feedback, focused on the process or strategies which people use to undertake their work, are more likely to set process goals compared to people who receive evaluative feedback (Balcazar, et al., 1986; Geister, et al., 2006). These people who receive evaluative feedback, focused on the results or outcome of work behaviours, are then more likely to set outcome goals compared to people who receive developmental feedback:

Hypothesis 3a: Individuals who receive developmental feedback are more likely to set process/strategy goals compared to individuals who receive evaluative feedback.

Hypothesis 3b: Individuals who receive developmental feedback are more likely to set process/strategy goals compared to individuals who do not receive any feedback.

Hypothesis 4a: Individuals who receive evaluative feedback are more likely to set outcome goals compared to individuals who receive developmental feedback.

Hypothesis 4b: Individuals who receive evaluative feedback are more likely to set outcome goals compared to individuals who do not receive any feedback.

Intrinsically motivated individuals have been found to be more autonomous and self-driven than individuals who are less intrinsically motivated (e.g., Ryan & Deci, 2000) since they are motivated by their own interest. These individuals are then also more likely to work harder and take on more challenges (i.e., set new and more challenging

goals) simply for the experience of pleasure. Given that individuals' task specific motivation is being measured, it is also important to be aware of the potential additive effect of individual differences of initial or general motivation that may also come into play. From this, an individual's motivation orientation towards work (intrinsic and extrinsic) in general may play a role in the relationships investigated in the current study. Therefore, I hypothesize that these intrinsically motivated people are more likely to set new and more challenging goals, regardless of the type of feedback given, in comparison to less intrinsically motivated people. Therefore:

Hypothesis 5a: Task specific intrinsic motivation is positively related to the number of new and more challenging goals set by individuals regardless of the type of feedback given.

Hypothesis 5b: General intrinsic motivation is positively related to the number of new and more challenging goals set by individuals regardless of the type of feedback given.

Lastly, research has shown that extrinsic motivation is not necessarily always a detrimental type of motivation and in some circumstances it may actually lead individuals towards productive or efficient work behaviours when tied to various types of external rewards or competition (Amabile, Hill, Hennessey, & Tighe, 1994; Reeve, 2009). Given that the participants for the current study will, in fact, be rewarded for their participation, this may motivate them extrinsically to engage in the task. Therefore, it is expected that general and task specific motivation—even extrinsic motivation—will be positively related to the setting of new and more challenging goals:

Hypothesis 6a: Task specific extrinsic motivation is positively related to the number of new and more challenging goals set by individuals.

Hypothesis 6b: General extrinsic motivation is positively related to the number of new and more challenging goals set by individuals.

In summary, the current study sought to demonstrate that feedback concerned with individual development leads people to set new and more challenging goals by increasing their intrinsic motivation. When individuals have the opportunity to learn from past performance and to set goals towards conquering optimal challenges, they are likely to feel more competent and self-determined leading them to ultimately feel higher levels of intrinsic motivation. The current study also sought to demonstrate that feedback concerned with performance evaluation leads people to set new and more challenging goals by increasing their extrinsic motivation. From this, the goal was to provide further evidence for managers to use feedback through performance appraisals as a motivational tool for their employees to work towards setting goals that will lead to improved performance and work behaviours.

CHAPTER III
DESIGN AND METHODOLOGY

Sample and Recruitment

The sample consisted of 159 students of age 18 years to 53 years ($M = 24.1$, $SD = 13.18$) recruited from a mid-sized, Ontario (Canada) university. Of the 159 students: 12.9% were men, 86.5% women, and 0.6% unidentified (see table 2a below for total sample demographics and table 2b in Appendix E for demographics split by group conditions). The study was advertised on an undergraduate psychology participant recruitment pool website affiliated with the university where students signed up to participate in a lab-based experiment on course schedules and task strategies. Students participated in exchange for bonus points credited towards their final grade in psychology courses.

Table 2a. Demographics

Demographic	Totals	
	<i>N</i>	%
Ethnic origin		
British Isles (e.g., Irish)	1	11.6
	8	
Western European	1	7.7
	2	
Northern European	2	1.3
Eastern European	1	7.7
	2	
Southern European	4	2.6
French	1	8.4
	3	
African	4	2.6
Arab	1	11.0
	7	
East/Southeast Asian	1	10.3
	6	
South Asian (e.g., East Indian)	2	1.3
Latin, Central, South American	2	1.3

Caribbean	6	3.9
Aboriginal	1	.6
Indians from India	2	1.3
Multiple Origins	3	23.9
	7	
Other Origin(s)	2	1.3
Missing	5	3.2
<hr/>		
First Language		
Arabic	1	6.5
	0	
Cantonese	3	1.9
Chinese	6	3.9
English	1	73.5
	1	
	4	
Mandarin	2	1.3
Polish	2	1.3
Romanian	3	1.9
Urdu	2	1.3
Other*	9	5.8
Missing	4	2.6

* Languages indicated by only one participant: Assyrian, Bengali, Bisaya, French, Lebanese, Pashtu, Serbian, Spanish, Vietnamese.

Experimental Design

Students were randomly assigned to one of three groups (evaluative feedback, developmental feedback, no feedback). Participants completed a task (described below) and then were given a piece of paper, depending on which group they were randomly assigned to, this piece of paper had either developmental feedback, evaluative feedback or no feedback (it simply indicated the trial was complete) and this last group acted as a control group. They were then asked to set a goal for the next trial (of three, 8 minute sessions) and fill in measures on their task specific motivation.

Procedure

Task. The participants were told that the researchers were investigating the way in which students go about making their course schedules. The participants were asked to make as many unique class schedules of five non-redundant university classes (chosen from a fictional timetable provided to them) as they could in the allotted time frame. This task was developed by Earley (1985) and used in several goal-setting studies (e.g., Latham et al., 1994; Roberson et al., 1999; Seijts & Latham, 2001; Winters & Latham, 1996). Following the most recent application of the task by Seijts and Latham (2001), participants completed three 8-minute trials, which was found to be a sufficient amount of time for students not only to acquire the knowledge necessary for the task but also to complete the class schedules correctly (Seijts & Latham, 2001). This means a participant went through three sessions lasting 8 minutes each and during this time they were responsible for making unique class schedules. Previous studies have found that individuals perceived this task as being sufficiently complex (Earley, 1985; Seijts & Latham, 2001; Winters & Latham, 1996).

The rationale behind using this specific task was threefold. First, the task of scheduling is common in many work environments because not only are supervisors often responsible for making shift schedules but also employees are often responsible for setting their own agenda and making their own daily or weekly schedules. Therefore, this task is organizationally relevant which helps to increase its findings' generalizability from a laboratory setting to a field setting. Second, since the developmental function of performance appraisals consists of helping employees to improve their work strategies and ultimately their skills and performance, this task required the use of strategies that

could be measured directly and objectively (i.e., quantitatively) in order to determine if participants were, in fact, applying the feedback either in their goals or in their performance. Lastly, this study required a complex task rather than a simple one because students had to remain relatively engaged in order for them to be concerned with their performance and acknowledge or apply the given feedback in their subsequently set goals. Performance on this particular task was accomplished by applying strategies and logical reasoning and therefore could not be improved by simply working harder (Wood, 1986) or persisting longer (e.g., Earley, 1985; Seijts & Latham, 2001; Winters & Latham, 1996). This task involved participants discovering and implementing task strategies effectively in order to complete more class schedules per time trial.

Finally, although studies in laboratory settings have their limitations (e.g., generalizability to work setting) preliminary testing of the current study's hypotheses in a controlled environment was essential. That being said, using a student sample in a laboratory setting allowed the variables in question to be isolated to determine what specific relationships exist. However, once the important relationships have been determined and the theoretical basis has been established, it will ultimately be important to test and apply these theoretical linkages within an actual workplace.

Instructions. At the onset of the study, participants were asked to fill in a consent form (see Table 1 in appendix A for methodological order of experiment) and then a measure related to their general work preference (Work Preference Inventory- student form- Amabile, Hill, Hennessy & Tigue, 1994; 1995). This measure was administered to determine participant's initial and general motivational outlook as it related to their schoolwork (see measures section). Participants were then each given a packet

containing first the rationale for the study where participants were told that the reason behind completing the task is that the researchers are examining the way in which students make their course schedules. The packet also contained instructions for the task (see Appendix A), a course offerings timetable containing 12 classes each consisting of 10 different section meetings and the rules they were to follow. The instructions for this task consisted of six rules for completing class schedules correctly: 1) each individual schedule should include the course name, its code, meeting times, and section; 2) each individual schedule should contain five different classes scheduled on the same day; 3) each individual schedule must be unique (i.e., it cannot be exactly the same as any other class schedule previously made); 4) any course containing a quiz section should have the quiz section scheduled on the same day as the class; 5) no two marketing courses should be scheduled within one hour of each other; 6) any speech communication lecture class should also have a laboratory class scheduled. Participants were also given blank scheduling sheets and told they would have 4 minutes to practice the task of making course schedules. After this practice trial, participants were given (see Appendix C for measures) an open-ended question regarding their personal goals for the first 8-minute trial, a measure of their task specific intrinsic motivation, and a measure of their task specific extrinsic motivation. Once these were completed, participants started the first 8-minute trial. This was repeated twice more.

Feedback. Once the practice trial was completed, participants were told they had performed at an adequate level and that they may move on to the next trial. Performance was operationalized as the number of correct (i.e., followed all the rules listed above) class schedules produced on each of the three trials. After the practice trial, participants

were then asked to fill in their personal goal for the first real 8-minute trial. Participants were then asked to fill in the measure concerning their task specific intrinsic and extrinsic motivation. After the first 8-minute trial, participants were given feedback, depending on which group they were randomly assigned to (developmental, evaluative or no feedback). For this, the researcher would leave the room announcing that “I’m going to look this over and prepare your feedback, I will be right back”. The experimenter would choose a pre-made feedback sheet corresponding with the participant’s trial performance (see Appendix B for detailed feedback script). The wording of the feedback varied depending on which trial it was given for (first, second or third) and on individual performance. Tailoring the feedback was important in order to help to counter practice effects and or fatigue students potentially encountered from repeatedly filling in the same measures and setting goals since they were prompted to notice change in the feedback and modify their behaviour accordingly.

An example of developmental feedback consisted of “You’ve completed the first trial. For this first trial, you did x well and you had more difficulty with y . Here is a suggestion in order for you to develop your skill on the next trial. Try to think of any strategies or shortcuts that you may implement as you are working.”

Whereas an example of evaluative feedback consisted of “You’ve performed at an average level in comparison to other students and completed the first trial. For this first trial, you had some difficulty with y perhaps try increasing your level of productivity on the next trial”.

The control group received no feedback, they were simply given a sheet of paper saying “You’ve completed trial x , you may proceed to the next” and then they were

asked to complete the paper and pencil Likert scales of task specific intrinsic and extrinsic motivation measure (See Appendix C) and to set their own goals for the subsequent trial. For the participants who actually received feedback, they were also asked to write down their personal goals for the next 8-minute trial and fill in the task specific intrinsic and extrinsic motivation measure.

Goal-setting and task strategies. From the previous studies, which have used this same task (i.e., Earley, 1985; Seijts & Latham, 2001; Winters & Latham, 1996); four strategies have been identified when participants produce correct class schedules. These strategies are: 1) repeatedly scheduling the same subject; 2) repeatedly scheduling the same section; 3) scheduling night classes; and 4) recording class names and times chronologically. The first strategy occurred when a pattern was detected where the participant scheduled many classes of the same subject (e.g., scheduling the same psychology class on each schedule) since this allowed for more efficiency not having to insert too much variety. The second strategy was examined when the participant scheduled the same section of the same class for every schedule since the course time could be memorized and easily repeated on to every schedule. The third strategy was examined when a participant scheduled night classes, since there were less of these available and they did not conflict with any day scheduled classes they were easy to insert in every schedule making every schedule completed more efficiently. Lastly, to measure the strategy of recording class names and times chronologically, each schedule was examined to determine if classes and times written on the schedule started with early morning classes on the first line of the schedule, and ended with late classes on the last line of the schedule. It is important for the researcher to determine if strategies of making

unique course schedules are being developed since this will demonstrate that the participant is taking the feedback into consideration. The use of these strategies was incorporated in the feedback given to participants in the developmental group where upon their use (by participants during the trials) the tailored feedback reflected that they had “made use of x strategy well”. Once the participants completed the second 8-minute trial, those who were in the developmental feedback group received feedback suggesting that more attention be paid to implementing strategies or shortcuts they had not used yet.

In addition, participants in this group were given one of their strengths and one of their weaknesses (as mentioned above). The participants in the evaluative feedback group received almost the same feedback as their last trial simply announcing one of their weaknesses (i.e., either not following task rules or not making schedules efficiently, whichever was most appropriate to their actual performance). Participants were then, again, asked to complete the task specific intrinsic and extrinsic motivation measures and write down their personal goals for the next trial. The third 8-minute trial was then completed; feedback given was similar to the previous type only the strengths, weaknesses and strategy tips varied slightly depending on individual performance and assigned group. Participants then indicated their goals for the next trial (although in actuality there would be no fourth trial) and filled in the task specific intrinsic and extrinsic motivation scales.¹

¹ The reason for having the participants write down their goal for a trial they were not asked to complete is that research has shown some individuals take longer than others to accept or take into consideration feedback and therefore subsequent goal-setting may only reflect the feedback over time (in more than one or two trials).

It is to be noted that participants in this study were asked to set their own goals instead of receiving assigned goals. The rationale behind this decision was to address the issue of individual differences, which play a role in any type of measure of work motivation as well as reactions to performance appraisals. When greater choice of goals is offered, individual differences are likely to emerge in comparison to having no choice when using assigned goals (Kernan & Lord, 1988). The current study was looking at self-set goals and feedback given over more than one trial and therefore this presented opportunities for choice to the participants in order to potentially allow them to express any individual differences they may have (Locke et al., 1981). How this relates to the world of work is when employees are given the opportunity to participate in the goal-setting process they are concurrently getting the message that not only does the organization value employee input but also that they have confidence in their employee's ability and motivation (Roberts & Reed, 1996). Additionally, if assigned goals are rejected, personal goals are likely to be set and to be the ones affecting performance (Ambrose & Kulik, 1999). Lastly, goals that are self-set are often more desirable than assigned goals because they have been found to foster high commitment (Hinsz, Kalnbach, & Lorentz, 1997).

Within the individual goals participants set, the objective was to determine whether he or she wished to improve their skill acquiring, strategy developing or performance (i.e., number of correct class schedules per trial). To determine if participants had been engaging in further goal setting by setting new and more challenging goals (i.e., discrepancy creation) the content of the goals was examined and coded. If goals were in relation to outcome (e.g., "I will try to make 4 schedules during the next trial") they were

counted as outcome goals whereas if goals were in relation to strategies (e.g., “I will try to implement a new strategy such as repeatedly scheduling night classes for the next trial”) they were counted as process/strategy goals. In order to determine if the goal was in fact new and more challenging it was compared to the previously set goals for the previous trial. A challenging goal was one that exceeded the previous goal either in number of schedules to make (increased outcome goal) or in complexity of strategies to use (increased process goal). If a goal indicating a number of schedules to make is set for the subsequent trial and such goal was not set in the previous trial then this was counted as a new outcome goal. If a goal reflecting a strategy is set and such goal was not set in the previous trial then this was counted as a new process goal.

Manipulation checks. A paper and pencil Likert scale measuring performance appraisal use was administered to serve as a manipulation check (see measures) to see whether the feedback was perceived as evaluative or developmental. Additionally, the task complexity measure was used to ensure that the sample for this study did not significantly differ from previous samples who have completed this task and rated it as relatively complex. Lastly, an additional measure, the Goal Orientation Inventory, was administered partly as a manipulation check and partly as an indicator of construct validity. This measure is a paper and pencil Likert scale of performance goal orientation and learning goal orientation (see measures), which served as a second proxy for intrinsic and extrinsic motivation as a general attitude not specific to the task or to schoolwork. Instances where participants indicated generally ascribing to more learning goals would demonstrate that individuals generally strive to learn something new or further their competence on the given task. Instances where participants indicated ascribing to more

performance goals in general would indicate that individuals generally strive to portray a positive image (or to avoid a negative image) of their competence and ability through their performance on a given task (Dweck, 1989; Dweck & Leggett, 1988; Heyman & Dweck, 1992; Licht & Dweck, 1984).

Debrief. Participants were then debriefed and told the actual purpose of the study in general terms and they were reassured that the study was in fact not used to determine the way in which students make their course schedule and that actual performance on the task was not the main focus of the study (See Appendix D for debriefing script).

Participants were then informed that the goal of the current study was to see how different types of feedback influence motivation and goal-setting.

Measures

Task specific intrinsic motivation. The measure of task specific intrinsic motivation was adapted from the Intrinsic Motivation Inventory (IMI; Ryan, 1982), which was based on self-determination theory. Various forms of this measure and its dimensions (interest/enjoyment, effort/importance, perceived competence, perceived choice, value/usefulness, relatedness and pressure/tension) have been adapted and used in several experiments related to intrinsic motivation and self-regulation (e.g., Deci, Eghrari, Patrick, & Leone, 1994; Plant & Ryan, 1985; Ryan, 1982; Ryan, Connell, & Plant, 1990; Ryan, Koestner, & Deci, 1991; Ryan, Mims, & Koestner, 1983). A previous study by McAuley, Duncan, and Tammen (1989) examined and confirmed the validity of the IMI and found strong support for its reliability and validity. A second study used this measure and also found reasonably good construct (factorial) validity (McAuley, Wraith & Duncan, 1991). The IMI was designed to measure participants' subjective experience of

intrinsic motivation during laboratory experiments where they have worked on an interesting activity/task. The interest/enjoyment subscale is considered the self-report measure of intrinsic motivation; thus, although the overall questionnaire is called the Intrinsic Motivation Inventory, it is only the one subscale that assesses intrinsic motivation, per se. Also, given that the general motivation orientation questionnaire (WPI, described below) measures in part the many dimensions underlying the multifaceted construct of intrinsic motivation such as self-determination and competence among others, only the one principal scale of the IMI was used. The purpose of measuring the dimension of interest/enjoyment was to assess participants' levels of task specific intrinsic motivation while performing the schedule making activity although the entire measure was administered to participants for further research. This specific dimension assesses the core component of intrinsic motivation, which is enjoyment and interest in the task at hand (McAuley, Duncan, & Tammen, 1989). The entire scale has been found to be easily modifiable with minimal effects on internal consistency. For the current study, the scale was comprised of 5 items ($\alpha = .89$). Test-retest reliabilities (although time between test and retest was short: 15 minutes) for periods from time 1 to time 4 were quite high, ranging from .84 to .95, indicating on average agreement of 81% between the sets of scores. The items were on a 7-point Likert response scale ranging from 1 (not at all true) to 7 (very true) (e.g., "While I was doing this activity, I was thinking about how much I enjoyed it").

Task specific extrinsic motivation. The measure of task specific extrinsic motivation was adapted from the Work Preference Inventory (WPI) designed by Amabile (1987). It has been used in several experiments related to intrinsic and extrinsic

motivation (e.g., Loo, 2001) and the current study used the recent and validated version of the measure used and developed by Amabile, Hill, Hennessy, and Tigue (1994,1995). The version that was used for the current study has been developed, validated, and modified by Amabile et al., (1994, 1995) for use with a student population. Extensive development and evaluation of the WPI were undertaken when constructing the test where a representative collection of items were secured (Amabile et al., 1994) in order to ensure adequate content validity (Nunnally & Bernstein, 1994). It is comprised of 30 items that primarily represent intrinsic and extrinsic motivation orientations as two relatively stable individual differences; it is possible for individuals to simultaneously exhibit high levels of both intrinsic and extrinsic motivation. This measure aims to capture the major elements of intrinsic motivation (self-determination, competence, task involvement, curiosity, enjoyment, and interest) and extrinsic motivation (concerns with competition, evaluation, recognition, money or other tangible incentives, and constraint by others) (Amabile et al., 1994; 1995). This measure can also be divided into four secondary scales, two of which represent intrinsic motivation (ten items for the enjoyment scale and five items for the challenge scale) and two represent extrinsic motivation (ten items for the outward scale and five items for the compensation scale).

The two secondary factor scales of extrinsic motivation (i.e., outward, .70 and compensation, .66, scales) were adapted into five items for the purposes of the current study (and to mirror the number of items used for the task specific intrinsic motivation measure – see above) in order to measure changes in task specific extrinsic motivation. The next section contains a further description of the entire measure as well as its published reliability and validity information. For the current study, test-retest

reliabilities (although time between test and retest was short: 15 minutes) for periods from time 1 to time 4 were acceptable, ranging from .77 to .93, indicating on average agreement of 73% between the sets of scores. The 5 items ($\alpha = .63$) are on a 4-point Likert scale ranging from 1 (never or almost never true of me) to 4 (always or almost always true of me) (e.g., “I am strongly motivated by the bonus points I can earn from participating in this task” and “To me success on this task means doing better than other people”). Given the nature of the measure under investigation being a psychological construct (i.e., extrinsic motivation) Kline (1999) suggests that values below even .70 can, realistically, be expected because of the diversity of the constructs being measured. This is especially the case with the construct of extrinsic work motivation as it encapsulates a varying range of external factors such as rewards, recognition, and evaluations.

General intrinsic and extrinsic motivational orientations. In order to determine whether the feedback conditions had an effect on task specific motivation it was important to measure people’s general motivation coming into the experiment and covary out its effect. Using these covariates ensured that the influence of people’s general motivation at the onset of the task was taken into account so that initial individual differences and changes that occurred throughout the experiment were solely due to the manipulation of the feedback conditions. Therefore, general intrinsic and extrinsic motivations were used as covariates to better isolate the change in task specific motivation during the experiment. General intrinsic and general extrinsic motivations towards work were assessed with the student form of the Work Preference Inventory designed by Amabile (1987). The version that was used for the current study has been

developed, validated² and modified by Amabile et al., (1994, 1995) for use with a student population. It is comprised of 30 items that primarily represent intrinsic and extrinsic motivation orientations as two relatively stable individual differences; it is possible for individuals to simultaneously exhibit high levels of both intrinsic and extrinsic motivation. This measure aims to capture the major elements of intrinsic motivation (self-determination, competence, task involvement, curiosity, enjoyment, and interest) and extrinsic motivation (concerns with competition, evaluation, recognition, money or other tangible incentives, and constraint by others) (Amabile et al., 1994; 1995).

Scale reliabilities are reported with Cronbach's alphas, which were .64 intrinsic motivation, and .60 extrinsic motivation. These scale reliabilities are slightly lower than the reported coefficients by Loo, 2001 ($\alpha = .76$ (intrinsic), .63(extrinsic)). Given the nature of the measure under investigation being two psychological constructs (i.e., intrinsic and extrinsic motivation) Kline (1999) suggests that values below even .7 can be expected because of the multifaceted dimensions of the constructs being measured. For example, the construct of general extrinsic motivation encapsulates external motivators such as reaching a set standard, performing better than others, and performing for monetary or verbal rewards. These items are all conceptually distinct but they also all tap into the construct of extrinsic motivation represented by external motivators. A second example when referring to general intrinsic motivation relates to the underlying elements that enhance intrinsic motivation.

² A confirmatory factor analysis (CFA) was conducted to determine whether the empirically specified factor structure of two factors (intrinsic and extrinsic motivation) would emerge from the data obtained on the Work Preference Inventory (WPI), as the previous research would suggest (Amabile et al., 1994; Loo, 2001). These results will be discussed further in the limitations section.

These elements are competence, self-determination, choice, interest, enjoyment and autonomy, and although they are quite distinct in and of themselves, they are all being measured, in part, under the overarching umbrella of intrinsic motivation. That being said, the overall scale had a coefficient alpha of .62. The items are on a 4-point Likert scale ranging from 1 (never or almost never true of me) to 4 (always or almost always true of me) (e.g., “What matters most to me is enjoying what I do” and “I prefer work I know I can do well over work that stretches my abilities”).

Goal orientation inventory. As a proxy for intrinsic and extrinsic motivation as general attributes, learning and performance goal orientations were measured using Button, Mathieu and Zajac goal orientation items (1996). This measure was given at the end of the experiment along with the manipulation check measures described below. The purpose of adding this measure was to examine the pattern of relationships between scores on the WPI and scores on scales measuring general orientation towards work given the close linkages between the sets of constructs. For example, one would expect that those scoring high on extrinsic motivation would also score highly on the performance goal orientation where people’s work is focused on outward elements such as people’s opinions or concerned about external rewards for their work. On the other hand, one would expect those that score highly on intrinsic motivation would also score highly on learning goals where the goal of increasing competence comes into play. Eight items were used to measure each orientation (learning goal orientation $\alpha = .82$ and performance goal orientation $\alpha = .79$), which formed a total of 16, 7-point Likert-type items (e.g., ‘The opportunity to learn new things is important to me’ and ‘The opinions others have about

how well I can do certain things are important to me'). Scores on these items could range from 1 ('strongly disagree') to 7 ('strongly agree').

Scale Validation

Previous research has demonstrated that the subscales of the Work Preference Inventory (WPI) correlated with several related questionnaires and behavioural measures of motivation providing concurrent validity (Amabile et al., 1994). The expected corresponding correlations were also found for the current study where the subscales of the WPI were found to correlate with the expected subscales of the Goal Orientation Inventory (being a proxy for motivation). The general intrinsic motivation scale correlated significantly with the learning goal orientation scale ($r = .62, p < .01$) and the general extrinsic motivation scale correlated significantly with the performance goal orientation scale ($r = .43, p < .01$) demonstrating construct validity. The general intrinsic motivation scale also significantly correlated with the task specific intrinsic motivation scale demonstrating good concurrent validity and did not correlate with measures of extrinsic motivation demonstrating good discriminant validity for further construct validity. See Table 4 for correlations among all measures.

Table 4. *Correlations among dependent variables.*

	1	2	3	4	5	6
1. General Intrinsic	.64					
2. General Extrinsic	.01	.60				
3. Task Specific Intrinsic	.25**	.06	.89			
4. Task Specific Extrinsic	-.07	.39**	-.04	.63		
5. Learning Goal Orientation	.62**	-.04	.48**	.02	.82	
6. Performance Goal Orientation	-.06	.43**	.05	.49**	-.07	.79

** $p < .01$.

Note. Italicized numbers represent Cronbach's alpha for each corresponding measure.

This pattern of correlations between scores on the WPI and the GOI as well as the other measures of motivation (previously listed) complements Amabile et al's (1994) and Loo's (2001) pattern of findings for the Work Environment Inventory and the Work Environment Scale as well as the Values Scale in their respective studies. Turning to the task specific extrinsic motivation scale created for the current study (adapted from the WPI), it was also found to have construct validity as it correlated significantly with the performance goals scale (proxy for extrinsic motivation) of the Goal Orientation Inventory (GOI) measure as expected. This scale was also found to have discriminant validity (where measures that are supposed to be unrelated are, in fact, not related) as it did not correlate with the measures of intrinsic motivation (general intrinsic motivation, task specific intrinsic motivation and learning goals) providing further construct validity.

Factor analysis – Task specific extrinsic motivation. The task specific extrinsic motivation questionnaire was constructed for the current study and adapted from the

Work Preference Inventory (as previously mentioned) and therefore required an exploratory analysis. As such, a principal component analysis (PCA) was conducted on the 5 items of this scale. An oblique rotation method (oblimin) was used in order to measure the underlying factors of task specific extrinsic motivation. It was expected that this measure have two factors given that it was adapted from the two secondary factors of the extrinsic motivation subscale of the Work Preference Inventory. The overall scale indicated a reliability coefficient of .63 and the two subscales of compensation ($\alpha = .77$) and outward ($\alpha = .67$) respectively.

The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = .56$ ('mediocre' according to Field, 2009), and all KMO values for individual items were above .53, which meets the acceptable limit of .50 (Field, 2009). Bartlett's test of sphericity $\chi^2 (10) = 224.02, p < .001$, indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component. Two components had eigenvalues above Kaiser's recommended criterion of 1.0 (i.e., 1.99 and 1.53) and in combination explained 71% of the variance. Further, the scree plot showed a point of inflexion (i.e., where the slope of the line changes dramatically) that would justify retaining two components. Given the convergence of Kaiser's criterion and the scree plot on two components, two components were deemed suitable and further examined. Table 3 shows the factor loadings after rotation.

The items that cluster on the same component suggest that component 1 (two items above .91) represents a concern for outward influences (e.g., doing better than others, others finding out how good I am at this task) and component 2 (two items above

.88) represents a concern for compensation (e.g., motivated by bonus points, strongly aware of bonus points). Item 3 (i.e., “I would prefer having someone set clear goals for me on this task”) presented some difficulties for this analysis as it loaded on both components (.40 on component one – outward; and .42 on component two – compensation). This one item was expected to be associated with the outward component only although this was not found to be the case. Although this item, as it was adapted from the WPI, had previously been indicated as an item relating to the outward (component 1) factor according to previous research, it may be the case that this item was viewed differently compared to the other two items related to the outward factor. This item may also pose a difficulty relating to the two components because the task itself involved goal-setting whereas the measure was created without this in mind (it was focused on encapsulating the construct of task specific extrinsic motivation). That being said, all five items indicated loadings above .36, therefore were retained (Stevens, 2002) and together formulated a composite score of task specific extrinsic motivation.

Table 3. *Task Specific Extrinsic Motivation Scale – Items, & Factor Loadings*

Item	Outward	Compensation
1. I am keenly aware of the bonus points participating in this task will give me.		.898
2. To me, success on this task means doing better than other people.	.932	
3. I would prefer having someone set clear goals for me in this task.	.395	.422
4. I am strongly motivated by the bonus points I can earn from participating in this task.		.884
5. I want other people to find out how good I really can be at this task.	.914	

Manipulation Check Measures

Perceived function of performance appraisal. Cleveland, Murphy, and Williams's (1989) factor structure for multiple performance appraisal uses (or functions), which was also used in Boswell and Boudreau (2000), was adapted for this study. This measure has yielded acceptable internal consistency with Cronbach's alphas of .70 (4 items for evaluative) and .77 (5 items for developmental) (Boswell & Boudreau, 2000). As previously mentioned, examples of developmental functions are performance feedback, identification of individual training needs, and determination of transfers and assignments. Evaluative functions include salary administration, promotion decisions, and determining which employees are not performing well. For the purposes of this study, four developmental performance appraisal functions were relevant and they are performance feedback and identification of individual training needs, identification of individual strengths and weakness and setting goals and the two relevant evaluative performance appraisal functions are recognition of individual performance and identification of poor performance. The six functions were listed on the survey and participants were asked to what extent they agreed (or disagreed) that their performance "feedback" was used for each particular purpose (on the 1 to 7 Likert scale). Consistent with previous research (e.g., Ostroff, 1993), item responses were averaged to obtain the scale scores for evaluative (two items, $\alpha = .44$) and developmental (four items, $\alpha = .68$) performance feedback function (full measure $\alpha = .73$).

By reviewing responses from all participants on this measure, it appears to have yielded unclear results. This is first seen in the means yielded by this measure where participants indicated on average a response between "neutral" and "slightly agree" that

their feedback was used for evaluative purposes (developmental group $M = 4.3$, evaluative group $M = 4.7$, no feedback group $M = 4.4$) and developmental purposes (developmental group $M = 4.8$, evaluative group $M = 4.6$, no feedback group $M = 4.9$).

Second, participants often asked questions like “what am I supposed to do for this question?” or “I don’t understand this question?” It seems the participants misunderstood the measure quite often which may explain the unclear results. It may be that the format of the question (“For each of the following items, please indicate the extent to which you agree or disagree that your feedback was used for each particular purpose, using the following scale”), being different than most of the other measures used for the study, was confusing for students. Another reason could be that the students receiving no feedback in their performance appraisals were confused as to what they were supposedly rating on this measure although they still were able to indicate some agreement for both purposes (as can be seen by the means listed above). Additionally, since all participants were asked to set goals, the item asking: “do you feel your feedback was used for the purpose of setting goals” yielded almost complete agreement for each participant in all three groups when it was in fact supposed to be tapping into the developmental function of performance appraisal only. More work in adapting this measure from a work setting to an experimental setting or studies where feedback is manipulated would be necessary in order to make the items more relevant and clear. The scale should also be adapted to take into consideration participants potentially receiving no feedback by placing an option “not applicable”.

Perceived complexity of the task. As a manipulation check and in accordance with previous studies that used this task, the extent to which the participants perceived the

task as complex was measured with four 5-point Likert-type items (e.g., “Many times, I had to check one thing before I scheduled something else”) after the participants completed the third and last 8-minute trial. These items were retrieved from Winters and Latham (1996) who used items from Wood’s Task Complexity Scale (Wood, 1986) and scores could range from 1(‘not at all’) to 5(‘very much so’).

Contrary to previous studies, which used the scale on the same task, the coefficient alpha for the 4-item scale was .52 (whereas Seijts & Latham, 2001, found .78). One item 3 (“I got so I could predict just about what I would need to do to complete a schedule”) was removed as multiple participants inquired about the confusing sentence structure and had a difficult time understanding the item; the coefficient alpha for the 3-item scale was .60. Additionally, upon further investigation of item 4 (“the scheduling requirements for each schedule changed a lot”) may have been inappropriate given the modifications of the task as it was used for the current study (participants set their own goals instead of being given goals). Upon removal of this item, the remaining coefficient alpha (now simply the correlation between the two items) was .70. An ANOVA revealed no significant differences among the three groups regarding the perceived complexity of the task. Lastly, the mean of the overall score (out of 5) was 4.0 (with the two items removed) and 3.53 (with all four items) which suggest that the task was perceived to be moderately complex which is in accordance with previous research using the same task (e.g., Seijts & Latham, 2001, $M = 3.83$). Therefore, the scale was useful in providing a general idea of perceived complexity of the task for the purposes of comparing its results to studies that have previously used items from the same measure for the same task. However, some grammatical reworking of item 3 may be fruitful and adding more items specific to how

the task was adapted for the current study could also be beneficial towards providing better reliability and a more complete picture of participant's perceived complexity of the task. Suggestions for improving this measure are further discussed in the limitations section.

CHAPTER IV RESULTS

Data Screening (Hypotheses 1 and 2)

To test Hypotheses 1 (a-c) (interaction of time and feedback on task specific intrinsic motivation) and 2 (a-c) (interaction of time and feedback on task specific extrinsic motivation), two 3 (feedback – developmental, evaluative, no feedback) X 4 (times 1-4) mixed repeated measures design Analyses of Covariance (ANCOVAs) were conducted. The dependent variable for the first analysis was task specific intrinsic motivation and the dependent variable for the second analysis was task specific extrinsic motivation. General intrinsic motivation was used as a covariate for the first analysis and general extrinsic motivation was used as a covariate for the second analysis.

Prior to undertaking any of the main analyses, a missing values analysis (MVA) was conducted. Results from this analysis indicated that any missing data within the overall data set was missing completely at random (Little's MCAR test, $\chi^2 = 48.80, p < .05$). It is important to test for the assumptions of mixed repeated measures design analysis of variance (ANOVA). Upon visual inspection of histograms and consulting with the Shapiro-Wilk test of normality, it was concluded that the assumption of normality was initially met. Furthermore, skewness values for the dependent variable ranged from -.23 to .02, and kurtosis values for the dependent variable ranged from -.76 to .10, which further satisfies the normality assumption. No data points were identified as outliers (cut-off $z = 3.29$; Field, 2009) for the analyses of hypotheses 1 and 2. Thus, the data set for these analyses consisted of a total of $N = 159$. Levene's test was not significant for all levels of task specific intrinsic motivation and for three of the four levels of task specific extrinsic motivation demonstrating equal variances. Only task specific extrinsic

motivation at time 1 demonstrated significantly different variances in different groups $F(2, 152) = 3.52, p < .05$. However, ANOVA is robust to violations of this assumption when group sizes are approximately equal and group variances are within Harley's F_{MAX} ratio. The current study meets these conditions ($n = 53$, and Harley's $F_{MAX} = 1.66 <$ critical value = 2.60) and therefore the assumption of homogeneity of variance is tenable. The assumption of independence of observations was tenable as measures to protect against violation were included within the experimental design (e.g. participants completed the experiment individually with only the experimenter in the room and therefore were unaware that other feedback conditions existed). Sphericity was assessed using Mauchly's W , which was significant, $W = .69, p < .001$. Therefore, Greenhouse-Geisser correction was used to interpret main effects and interactions since it is a more conservative approach that helps to avoid accepting values as significant when, in reality, they are not. Box's Test was non-significant $F(72,64218.95) = 1.27, p > .05$ and therefore the assumption of homogeneity of variance-covariance matrices was satisfied.

Initial analyses were conducted to ensure that the three groups did not significantly differ at onset before feedback conditions took place. No significant differences were found between the three groups on their task specific intrinsic and task specific extrinsic motivation.

Main Analyses (Hypotheses 1a-c)

Hypotheses 1 (a-c): Mixed repeated measures design analysis of variance. In order to test Hypotheses 1 (a-c) (interaction of time and feedback on task specific intrinsic motivation) a 3 (feedback – developmental, evaluative, no feedback) X 4 (times 1-4) mixed repeated measure design Analysis of Covariance (ANCOVA) was conducted. The

dependent variable was task specific intrinsic motivation and general intrinsic motivation (measured once at onset) was used as a covariate. It was hypothesized that the form of the interaction would demonstrate that individuals who received developmental feedback would experience higher levels of task specific intrinsic motivation over each time trial compared to individuals who received evaluative (1a) and no feedback (1b). It was also expected that individuals who received evaluative feedback would experience higher levels of task specific intrinsic motivation over each time trial compared to those who did not receive feedback (1c).

Table 5 presents means of each feedback group on the task specific intrinsic motivation scale for each of the four measurement times. Likert scales ranged from 1 ‘not at all true’ to 7 ‘very true’ where a higher number meant a higher level of motivation. The results, presented in Table 6, show a significant interaction (time x feedback) on task specific intrinsic motivation and contrasts were conducted to examine specifically where the significant differences lie.

Table 5. *Adjusted means and standard errors of feedback groups on task specific intrinsic motivation*

Feedback Group	Trial Time									
	1		2		3		4		Combined Time	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Developmental	4.71	0.16	4.47	0.18	4.38	0.20	4.26	0.21	4.45	0.18
Evaluative	4.50	0.16	4.25	0.18	3.89	0.20	3.79	0.21	4.11	0.18
Control	4.25	0.16	4.28	0.18	4.13	0.20	4.15	0.21	4.20	0.18

Note. Means were adjusted for the effect of the general intrinsic motivation covariate. The scale ranged from 1 (not at all true) to 7 (very true), higher values meant higher motivation.

Table 6. Results of repeated measures mixed design analysis of variance

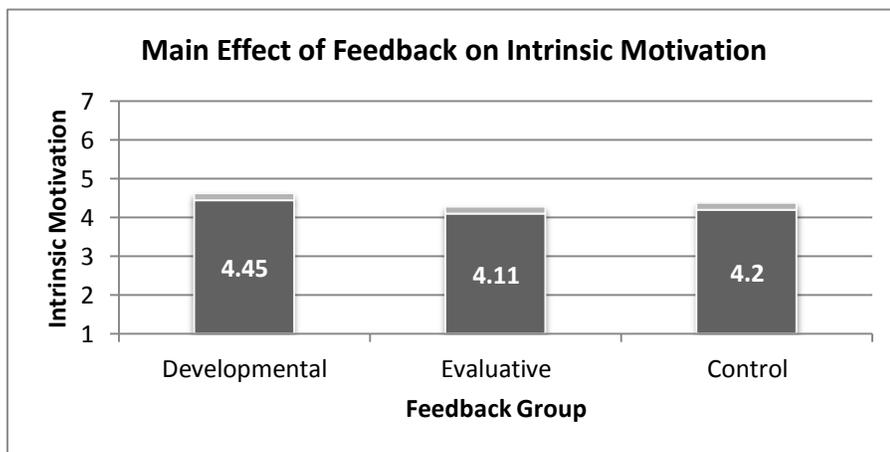
Source	<i>SS</i> ^a	<i>df</i> ^a	<i>MS</i> ^a	<i>F</i> ^a	η_p^2
<i>Between</i>					
Feedback group	3.40	2	1.70	1.01	.013
Error	260.40	155	1.68		
<i>Within</i>					
Time	.556	2.21	.25	.612	.004
Feedback group x Time	6.08	4.42	1.38	3.34*	.041
Error (time)	141.13	342.68	.41		

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

^a *SS*, *df*, *MS*, and *F* values for effects involving the Within Subjects factor are reported using the Greenhouse-Geisser correction

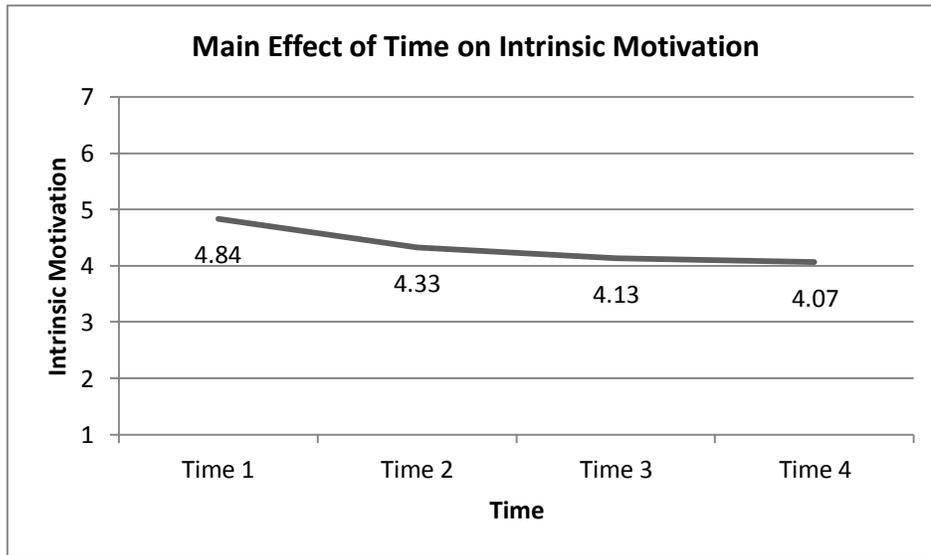
Main effects of feedback group and time. The results depicted in Figure 1 indicate that participants' task specific intrinsic motivation was not significantly affected by the particular feedback group the participants were assigned to (i.e., developmental, evaluative and no feedback), $F(2, 155) = 1.01, p = .37, \eta_p^2 = .013$. It was also found, as seen in Figure 2, that all participants' task specific intrinsic motivation did not significantly vary over time $F(2.21, 342.68) = 1.04, p = .56, \eta_p^2 = .004$.

Figure 1.



Note. Grey bars above data depict the standard error for each value.

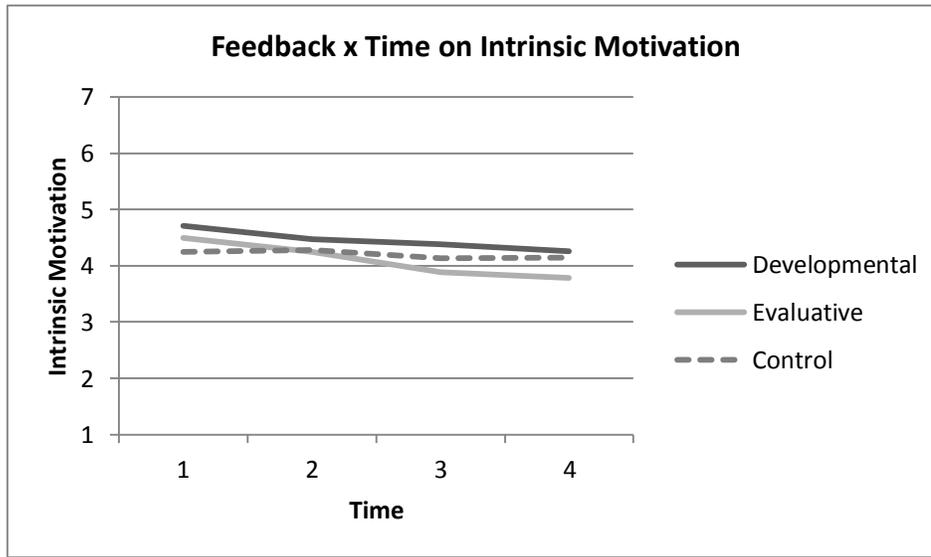
Figure 2.



Note. The scale ranged from 1 (not at all true) to 7 (very true), higher values meant higher motivation.

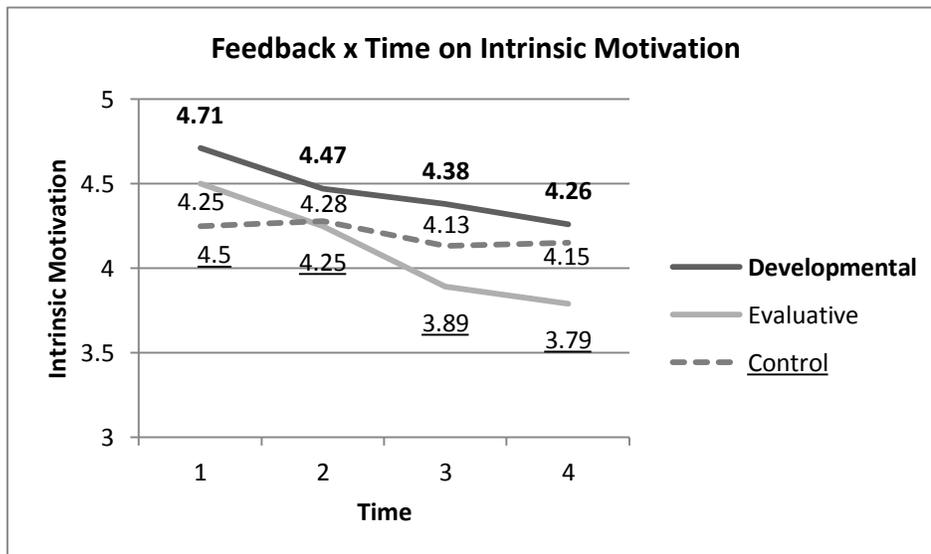
Feedback x Time interaction. With respect to the predicted feedback x time, the interaction was significant in the overall ANOVA $F(4.42, 342.68) = 3.34, p < .05, \eta^2 = .04$. Figures 3(a-b) (below) depict these interactions for task specific intrinsic motivation. Contrasts were used to break down this interaction; these contrasts compared feedback group's scores across each level of time on task specific intrinsic motivation. These analyses revealed one significant contrast for task specific intrinsic motivation. This contrast was found when comparing levels of task specific intrinsic motivation for the developmental and the evaluative feedback groups between times 2 and 3, $F(1, 155) = 4.17, p < .05, r = .16$. This finding supports Hypothesis 1a where participants receiving developmental feedback experienced higher levels of task specific intrinsic motivation over time than participants receiving evaluative feedback. The effect size for this significant contrast was large and therefore its practical significance is evident.

Figure 3a.



Note. The scale ranged from 1 (not at all true) to 7 (very true), higher values meant higher motivation.

Figure 3b.



Note. The scale ranged from 1 (not at all true) to 7 (very true), higher values meant higher motivation.

For Hypotheses 1b and 1c, no significant contrasts were found although some observations can be made when looking at marginal means and Figure 3b. It appears that the developmental feedback group experienced higher levels of intrinsic motivation over

time ($M = 4.55$) than the no feedback (control) group ($M = 4.20$) providing some initial support for Hypothesis 1b. Contrary to Hypothesis 1c, the no feedback (control) group ($M = 4.20$) experienced higher levels of intrinsic motivation than the evaluative feedback group over time ($M = 4.11$). Nevertheless, these group differences were not significant and therefore Hypotheses 1b and 1c were not supported at this time.

Hypotheses 2 (a-c): Mixed repeated measures design analysis of variance. In order to test 2 (a-c) (interaction of time and feedback on task specific extrinsic motivation) a 3 (feedback: developmental, evaluative, no feedback) X 4 (times 1-4) mixed repeated measure design Analysis of Covariance (ANCOVA) was conducted. The dependent variable was task specific extrinsic motivation and general extrinsic motivation (measured once at onset) was used as a covariate. It was hypothesized that the form of the interaction between time and feedback would demonstrate that individuals who received evaluative feedback would experience higher levels of task specific extrinsic motivation over each time trial compared to individuals who received developmental (2a) and no feedback (2b). It was also hypothesized that individuals who received developmental feedback would experience higher levels of task specific extrinsic motivation over each time trial compared to individuals who did not receive feedback (2c). Table 7 presents means of each feedback group on the task specific extrinsic motivation scale for each of the four measurement times. Likert scales ranged from 1 'not at all true' to 7 'very true' where a higher number meant a higher level of motivation. The results, presented in Table 8, show no significant main effects were found.

Table 7. Adjusted means and standard errors of feedback groups on task specific extrinsic motivation

Feedback Group	Trial Time									
	1		2		3		4		Combined Time	
	M	SE	M	SE	M	SE	M	SE	M	SE
Developmental	4.25	0.14	4.09	0.14	4.10	0.15	4.11	0.15	4.14	0.14
Evaluative	4.10	0.14	4.10	0.14	4.05	0.15	4.07	0.15	4.08	0.14
Control	4.22	0.14	4.13	0.14	4.15	0.15	4.10	0.15	4.15	0.14

Note. Means were adjusted for the effect of the general extrinsic motivation covariate. The scale ranged from 1 (not at all true) to 7 (very true), higher values meant higher motivation.

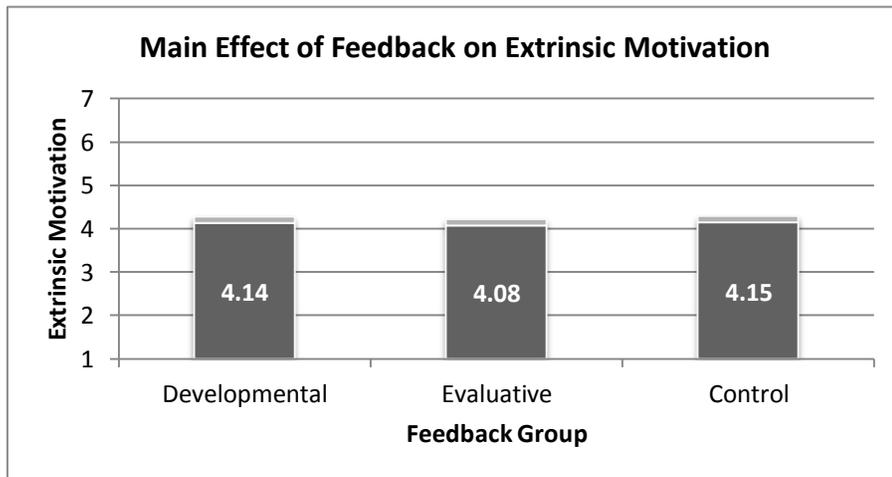
Table 8. Results of repeated measures mixed design analysis of variance

Source	SS ^a	df ^a	MS ^a	F ^a	η_p^2
<i>Between</i>					
Feedback group	.13	2	.07	.07	.001
Error	148.55	151	.98		
<i>Within</i>					
Time	.18	2.27	.08	.51	.003
Feedback group x Time	.436	4.54	.10	.61	.008
Error (time)	54.12	342.49	.16		

^a SS, df, MS, and F values for effects involving the Within Subjects factor are reported using the Greenhouse-Geisser correction

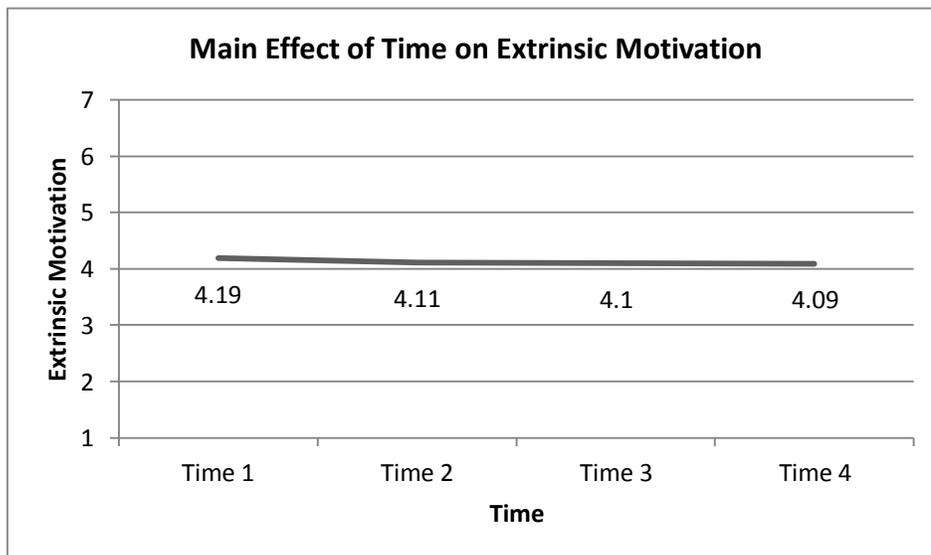
Main effects of feedback group and time. The results, as seen in Figure 4, indicate that participants' task specific extrinsic motivation was not significantly affected by the particular feedback group the participants were assigned to (i.e., developmental, evaluative and no feedback), $F(2, 151) = .07, p = .94, \eta_p^2 = .001$. It was also found, as seen in Figure 5, that all participants' task specific intrinsic motivation did not significantly vary over time $F(2.27, 342.49) = .51, p = .63, \eta_p^2 = .003$.

Figure 4.



Note. Grey bars above data depict the standard error for each value.

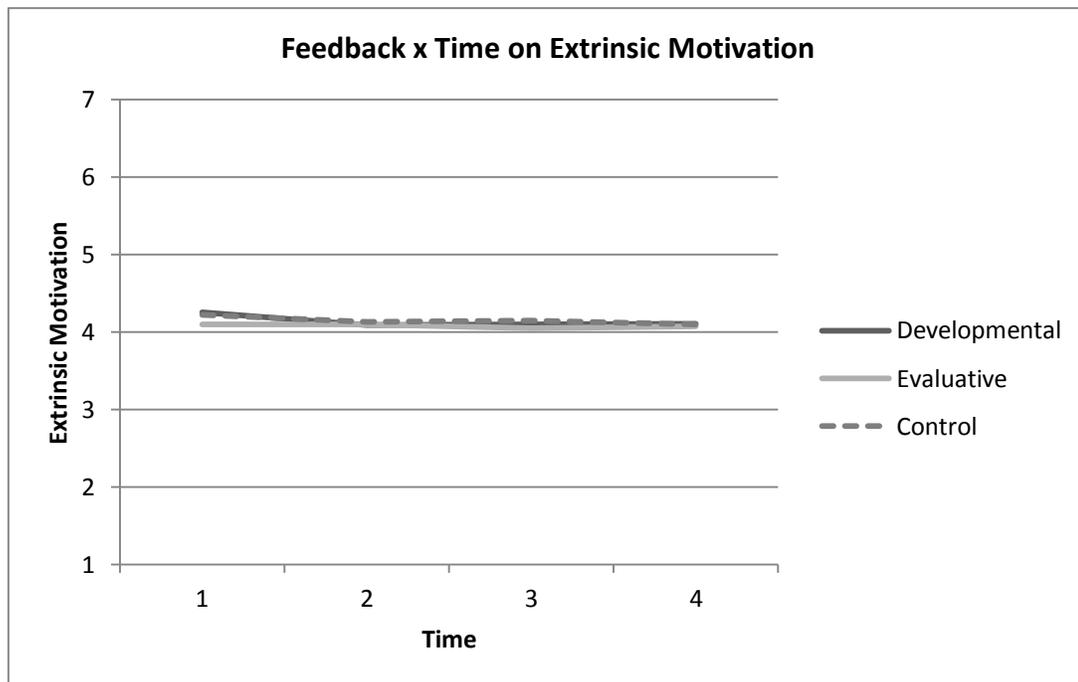
Figure 5.



Feedback x Time interaction. No significant interaction was found for task specific extrinsic motivation, $F(4.54, 342.49) = .61, p = .68, \eta_p^2 = .008$, as can be seen in Figure 6a. Therefore, only observations can be made of potential trends by looking at the marginal means in Figure 6b. It appears that participants in the evaluative group experienced slightly less task specific extrinsic motivation over time than participants in

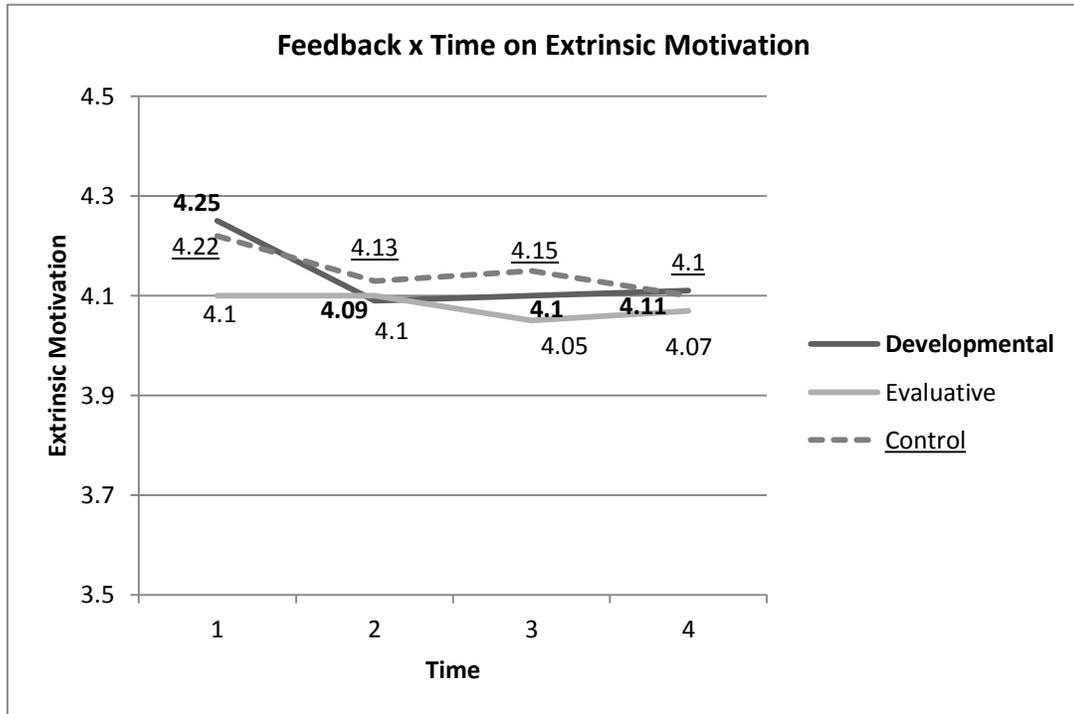
the other two groups which is contrary to the expected Hypotheses 2a-b. The developmental group also does not appear to have experienced more extrinsic motivation above that of the no feedback (control) group which is contrary to Hypothesis 2c.

Figure 6a.



Note. The scale ranged from 1 (not at all true) to 7 (very true), higher values meant higher motivation.

Figure 6b.



Note. The scale ranged from 1 (not at all true) to 7 (very true), higher values meant higher motivation.

Data Preparation (Hypotheses 3-4)

In order to address Hypotheses 3 (effect of feedback on total number of process goals) and 4 (effect of feedback on total number of outcome goals) a Mixed Repeated Measures Design ANOVA was conducted including function of feedback (3 levels of feedback: developmental, evaluative and no feedback) as a between subjects factor and type of goals (2 levels: process goals and outcome goals) as a within-subjects factor with the total number goals as the dependent variable. It was hypothesized that participants who received developmental feedback would likely set more process goals than participants in the evaluative and no feedback groups. It was also hypothesized that

participants who received evaluative feedback would likely set more outcome goals than participants in the developmental and no feedback groups.

Data coding of goals set by participants. Before each trial, participants were asked to set their goals for the trial. These goals were then coded by four undergraduate students. Two students were familiar with the study (i.e., upper year psychology students who were research assistants for the current study) and two students were not aware of the study (i.e., undergraduate students from the departments of human kinetics and anthropology) other than relevant information related to coding the goals. The raters were given an outline indicating the criteria for coding the goals (see Appendix F for coding outline). The goals were coded in four ways: outcome goals, process goals, and new and challenging goals.

If goals were in relation to outcome (e.g., “I will try to make 4 schedules during the next trial”) they were counted as outcome goals; if goals were in relation to strategies (e.g., “I will try to implement a new strategy such as repeatedly scheduling night classes for the next trial”) they were counted as process/strategy goals. In order to determine if the goal was in fact new and more challenging it was compared to the previously set goals for the previous trial. A challenging goal was one that exceeded the previous goal either in number of schedules to make (challenging outcome goal) or in complexity of strategies to use (increased process goal). If a goal indicating a number of schedules to make was set for the subsequent trial and such goal was not set in the previous trial then this was counted as a new outcome goal. If a goal reflecting a strategy is set and such goal was not set in the previous trial then this was counted as a new process goal. Participants set goals at four different occasions. Four raters coded these goals and the inter-rater

reliability was found to be Fleiss Kappa = 0.87 ($p < .001$), 95% CI (0.86, 0.88), SE = 0.01 (estimate of error). Conventionally, a Kappa of this value demonstrates almost perfect agreement as Kappa $> .80$ (Landis & Koch, 1977).

Data Screening (Hypotheses 3-4)

Looking at the three groups separately, values of skewness ranged between -.53 to .93 and values of kurtosis ranged between -1.70 and .40, which fall within the parameters of normality. Also, skewness values overall for the dependent variables ranged from -.25 to .58, and kurtosis values overall for the dependent variable ranged from -1.53 to -.68, which also satisfy the normality assumption. Only 1 data point was identified as an outlier (data point = 5.11 $>$ 3.29, cut-off of $z = \pm 3.29$, Field, 2009) and given the current study's adequate sample size it was removed. Thus, the data set for these analyses was $N = 158$. Levene's test was not significant meaning the assumption of homogeneity of variance is tenable. Sphericity is not an assumption of this particular design because the current analysis had a repeated-measures variable that had only two levels (Field, 2009). Box's Test was non-significant $F(6,606528) = 1.47, p > .05$ and therefore the assumption of homogeneity of variance-covariance matrices was satisfied.

Hypotheses 3 (a-c) and 4 (a-c): Repeated measures mixed design analysis of variance. In order to address Hypotheses 3 (effect of feedback on total number of process goals) and 4 (effect of feedback on total number of outcome goals) a Repeated Measures Mixed Design ANOVA was conducted including function of feedback (3 levels of feedback: developmental, evaluative and no feedback) as a between subjects factor and type of goals (2 levels: process goals and outcome goals) as a within-subjects factor with

the total number goals as the dependent variable. Means and standard deviations can be found in Table 9 below.

Table 9. Means and standard deviations of feedback groups on process/strategy and outcome goals

Feedback Group	Total process/strategy goals			Total outcome goals		
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range
Developmental	4.83	4.37	13.00	2.06	1.66	4.00
Evaluative	3.85	3.19	11.00	2.39	1.63	4.75
Control	3.44	4.00	11.00	2.69	1.82	5.75

Note. In the current data, the number of goals participant set ranged from 0 goals to the number listed above. The number of goals participants could set was unlimited.

Main effect of goals. There was a significant main effect of the total number of goals participants set in all feedback groups, such that participants set significantly more process goals than outcome goals across all feedback groups, $F(1, 156) = 16.17, p < .001, \eta_p^2 = .09$ (see Table 10 for results of this analysis).

Table 10. Results of repeated measures mixed design analysis of variance

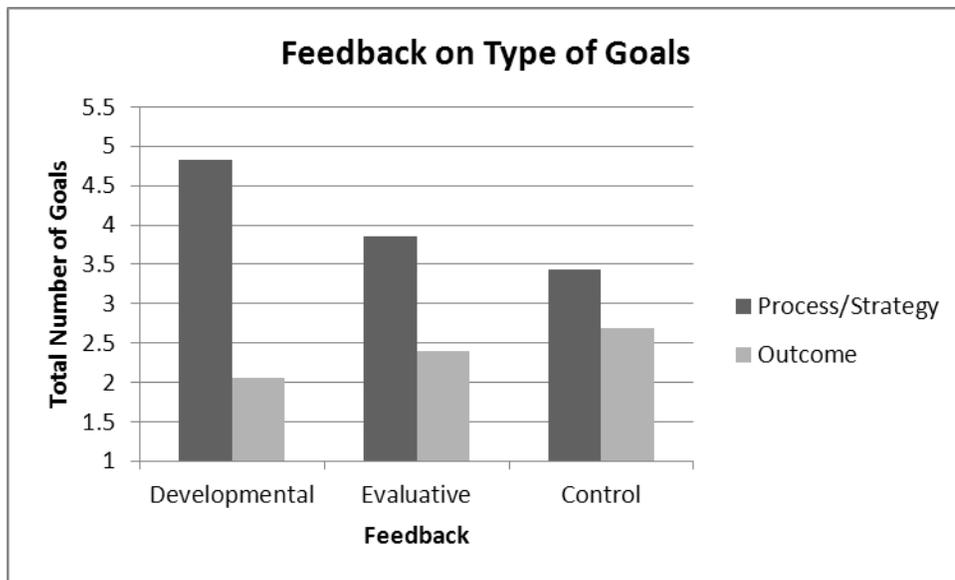
Source	<i>SS</i> ^a	<i>df</i> ^a	<i>MS</i> ^a	<i>F</i> ^a	η_p^2
<i>Between</i>					
Feedback Group	8.78	2	4.39	.997	.01
Error	686.60	156	4.40		
<i>Within</i>					
Goals	220.00	1	220.00	16.17**	.09
Goals x feedback group	55.62	2	27.81	2.04	.03
Error (goals)	2122.00	156	13.60		

** $p < .001$

^a *SS*, *df*, *MS*, and *F* values for effects involving the Within Subjects factor are reported with Sphericity Assumed

Examining Figure 7 (feedback x type of goals interaction) it can be observed that some of the predicted trends (although not significant) were present ($F(2, 156) = 2.04, p = .133, \eta_p^2 = .03$). Participants in the developmental feedback group were found to set slightly more process/strategy goals ($M = 4.83$) than participants in the evaluative ($M = 3.85$) and control ($M = 3.85$) groups. This provides some preliminary support (although not significant) for the trends predicted in Hypotheses 3a-b. Additionally, it appears that participants in the evaluative feedback group set slightly more outcome goals ($M = 2.39$) than participants in the developmental group ($M = 2.06$) providing some preliminary support (although not significant) for Hypothesis 4a. Lastly, contrary to Hypothesis 4b, the participants in the control group were found to set slightly more outcome goals ($M = 2.69$) than participants in the evaluative feedback group.

Figure 7.



Data Analysis: Bivariate Correlations for Hypotheses 5 (a-b) and 6 (a-b)

Lastly, to address Hypotheses 5 (task specific and general intrinsic motivation's effects on process and outcome goals) and 6 (task specific and general extrinsic motivation's effects on process and outcome goals) bivariate correlations were conducted in order to explore the relationship between task specific motivation, general motivation and the number of new and more challenging goals set by individual participants (discrepancy creation). It was hypothesized that participants who experienced higher levels of intrinsic motivation (task specific and general) would set a higher number of new and more challenging goals when compared to participants who experienced lower levels of intrinsic motivation (task specific and general). It was also hypothesized that participants who experienced higher levels of extrinsic motivation (task specific and general) would set a higher number of new and more challenging goals when compared to participants who experienced lower levels of extrinsic motivation (task specific and general).

Data screening and assumptions. First, upon visual inspection of histograms, the data appeared to be normally distributed for all dependent variables. Second, when looking at the total number of new and more challenging goals set by all three groups separately, values of skewness ranged between .29 and 1.07 and values of kurtosis ranged between -.42 and 1.0, which demonstrate the assumption of normality was tenable. Lastly, the skewness value overall for the dependent variable was .64 and the kurtosis value overall for the dependent variable was -.06, which then further satisfy the normality assumption. Only two data points were identified as outliers (data points = 3.36 and 3.47 > 3.29 cut-off of $z = \pm 3.29$, Field, 2009) and given the current study's adequate sample

size they were removed. Thus, the data set for these analyses was a total of $N = 157$.

Finally, both assumptions (sampling distribution is generally normal with a sample size that is quite large and interval data is being used) for using Pearson's correlation coefficient were met.

Results for hypotheses 5(ab) and 6(ab) bivariate correlations. Pearson product-moment correlation coefficients were obtained indicating the relationship between these variables (see Table 11 (below) for the results of this analysis).

Table 11. *Correlations among dependent variables*

	Total New/Challenging Goals
Task Specific Intrinsic Motivation	.34**
General Intrinsic Motivation	.08
Task Specific Extrinsic Motivation	.10
General Extrinsic Motivation	.01

** $p < .01$

A significant positive correlation was found between task specific intrinsic motivation and the total number of new and more challenging goals set by participants, $r = .35$, p (one-tailed) $< .01$, providing support for Hypothesis 5a. This medium correlation means participants who experienced higher levels of task specific intrinsic motivation, while engaged in the task, were more likely to set new and more challenging goals before each subsequent trial than participants who were less motivated. The coefficient of determination (R^2) for this correlation was .12 which means that task specific intrinsic motivation explained 12.3% of the variance in the total number of new and more challenging goals set by participants. No support was found for Hypothesis 5b and

Hypotheses 6a-b as no significant relationships were found between task specific extrinsic motivation, general intrinsic, general extrinsic motivation and the setting of new and more challenging goals. This however provides support for the idea that the general (baseline) motivation participants entered the experiment with did not significantly affect the number of goals they set, meaning that the groups did not significantly differ at the onset of the study.

Exploratory measure of goal orientation. Finally, with regards to the exploratory measure of the Goal Orientation Inventory (GOI, Batton et al., 1996) some interesting findings were obtained. A learning goal orientation was found to be significantly correlated with task specific (.48) and general (.64) intrinsic motivation whereas the performance goal orientation was found to be significantly correlated with task specific (.49) and general (.43) extrinsic motivation. These significant relationships lead to some exploratory preliminary analyses to determine if goal orientation was related to feedback type. In this case, however, no significant results were found. Preliminary correlations between goal orientations and goal-setting were also conducted and yielded a significant finding in that people who had a stronger learning goal orientation also set more new and challenging goals ($r = .27, p < .01$). More discussion regarding this measure can be found in the discussion and implication sections.

CHAPTER V DISCUSSION

Developmental and Evaluative Feedback on Intrinsic Motivation

The current study first aimed to determine whether or not different types or functions of performance appraisal feedback were influential on people's intrinsic and extrinsic motivation for specific tasks. People who were given developmental feedback were found to have significantly higher levels of task specific intrinsic motivation over time than people who were given evaluative feedback (see Figures 3a-b). Hypothesis 1a was therefore supported. Following this, the main effect of feedback on motivation was found to be non-significant (see Figure 1) and therefore it is only when feedback is given over time that it plays an influential role on motivation. However, people who were given developmental feedback were not significantly more intrinsically motivated over time than those who were not given feedback; and people who were given evaluative feedback were not significantly more intrinsically motivated than those given no feedback. Hypotheses 1b-c were therefore not supported. These last two findings indicate that the presence of either type of feedback was essentially no more influential on task specific intrinsic motivation than its absence (i.e., no feedback).

Several reasons may explain why developmental feedback helped to maintain intrinsic motivation over time more so than evaluative feedback. First, the finding that feedback, given over time, was influential is interesting. Researchers have found that people often need time to take external feedback into consideration and to then incorporate this feedback into their performance. Some research has also suggested that when people receive only poor or misleading feedback or even when they do not receive any feedback at all and when this occurs continuously over time, these people then may

have a flawed perception of their performance and consequently have develop an inflated confidence in their performance (Gregory et al., 2011). This is yet another example of how feedback can impact people differently over time. Therefore, the time component of the current study's first result is in line with previous research experiments using feedback conditions, which demonstrated that people often need time before these conditions can make a difference or have an impact on their performance (e.g., Fredenburg et al., 2001).

Turning to the possible reasons as to why developmental feedback was influential more so than evaluative feedback. When looking at type of feedback, the developmental feedback used in this experiment was similar to informal feedback as it included specific task-related feedback focused on task strategies, what was done well and what was done with difficulty and lastly it discussed what could be done next (Pulakos & O'Leary, 2011). This type of informal and continuous feedback is said to be quite powerful in performance management as it gives people concrete ways in which they can continuously modify and shape their performance not only to meet expectations and standards but also to work more efficiently and effectively (Gregory, Levy, & Jeffers, 2008; Pulakos & O'Leary, 2011). From this, a link can be drawn between these characteristics of developmental feedback and why they had an effect on task specific intrinsic motivation. When people are given specific details regarding the way in which they perform and how this performance can be improved, it appears that they are more intrinsically motivated towards improving their performance on the task at hand. That developmental feedback was found to be the most influential towards maintaining intrinsic motivation then is evidence for how this type of feedback is important and

powerful as it affects task specific intrinsic motivation. This can be inferred from research that has found intrinsically motivated people are likely to be more autonomous, and self-driven because they are motivated by their own interest and consequently they likely to work harder and take on more challenges simply for the experience of pleasure (e.g., Ryan & Deci, 2000).

To further understand reasons for this finding it is useful to look at it from the other direction. There are many reasons as to why people in the evaluative feedback group were less intrinsically motivated than people who received developmental feedback. Negative feedback was presented in both the developmental and evaluative feedback in the form of one weakness of the participants' performance. However, research has shown that people are more likely to be more accepting of this negative feedback when it is process-oriented rather than outcome-oriented (Medvedeff, Gregory, & Levy, 2008). The reason for this is that when feedback is process oriented, it offers the most useful and specific way in which performance can be improved by focusing on the way in which an individual performed instead of focusing on whether the performance was simply good, bad, sufficient or lacking in comparison to others or set standards. This was the case in this experiment. The developmental feedback was focused on the process and strategy participants were using and the evaluative feedback was focused on the outcome of participants' performance. This acceptance of negative, process, feedback enables the participant to use the specific and useful information for goal attainment as an extremely valuable motivational tool (Gregory, Beck, & Carr, 2011). Therefore, it may be that when the participants received negative outcome-oriented feedback (evaluative feedback) they were less accepting of this feedback and consequently less likely to use it

as a motivational tool. Essentially, this finding demonstrates the importance of how feedback is framed whether it is for individual development or individual evaluation which subsequently affects how people will react to it and what they will do with it.

Lastly, another reason why people who received evaluative feedback were less intrinsically motivated may be in line with previous research suggesting that feedback framed as an evaluation (i.e., an external factor) leads people to experience less interest and enjoyment in a task (DeCharms, 1968; Deci & Ryan, 1985). This ultimately undermines intrinsic motivation through reduced feelings of autonomy and choice. Consequently, when feedback is framed as an evaluation it may inherently lead to lower interest and enjoyment in a task and essentially lower task specific intrinsic motivation.

Evaluative and Developmental Feedback on Extrinsic Motivation

People who received evaluative feedback did not have significantly higher levels of extrinsic motivation over time than people who received developmental feedback or no feedback (see Figures 6a-b). People who received developmental feedback were also not significantly more extrinsically motivated over time than people who received no feedback. Therefore no support was found for Hypotheses 2a-c. Given that evaluations are the basis for determining whether people are complying with external demands (Deci & Ryan, 1985), it was inferred that they may influence extrinsic motivation. These findings contradict previous research that suggests that underlying elements of extrinsic motivation are evaluation concerns, recognition concerns, competition concerns, a focus on money or other tangible incentives, and a focus on the dictates of others (Amabile et al., 1994). Nevertheless, the current study did not find this to be the case and thus potential reasons for this are discussed.

Evaluative feedback in this experiment was similar to more formal feedback, which focuses on a broader evaluation of multiple competencies. This type of feedback, then, being less specific may also be less motivating towards goal attainment. However, no significant effects were found for any feedback group collapsed across time nor over time and therefore it appears that extrinsic motivation yielded a different pattern of results altogether when compared to the findings of intrinsic motivation previously discussed. Overall, all three groups had similar patterns of extrinsic motivation at onset and over time. It may be that extrinsic motivation, being measured by specific and relatively objective motivators (e.g., wanting to perform better than others and performing simply for bonus points) was inherently less likely to vary over time and be influenced by external factors such as feedback. Intrinsic motivation, on the other hand, was measured by motivators of interest and enjoyment, which are more subjective feelings towards performance. Therefore, ratings of these motivators are inherently more likely to vary over time and be more influenced by external factors such as feedback. Given that interest and enjoyment are more subjective feelings that are difficult to articulate, it may have been the case that intrinsic motivation allowed for more individual differences to emerge which may explain the significant results.

Other reasons as to why extrinsic motivation was not significantly influenced by feedback may be due to the content of the evaluative feedback as well as the nature of the participant pool from which participants were drawn. Not only did the evaluative feedback not vary much in wording (i.e., there were only two possible feedback options) but also it did not present people with new or increasing external contingencies like rewards. Research has shown that extrinsically motivated people not only focus on their

performance outcome and how they are doing compared to others but also more importantly they focus on rewards. Given the nature of the experiment, all groups were likely motivated by the bonus points they were receiving for their participation, which they received regardless of how they performed. This may have undermined the effect of the evaluative feedback on extrinsic motivation and the emergence of individual differences. The nature of the experiment also introduced a second factor of timed trials that may have contributed to the lack of significant differences in extrinsic motivation. Given that pressure and tension are often imposed by external factors (i.e., timed trials) and are followed by a created sense of urgency and anxiety, they are likely contributing factors to extrinsic motivation (Deci & Ryan, 1985). From this, it may be that the timed trials lead all participants to experience at least some level of extrinsic motivation. These timed trials along with the reward of bonus participation points may have contributed to the difficulty in separating the results due to feedback and those due to the nature of the experiment. Lastly, one note to make in terms of task specific extrinsic motivation is that the measure for this construct along with other factors (e.g., sample size) may have reduced the power of the experiment and potentially increased Type II error (not finding significant differences when in fact differences exist). This caution will be further discussed in the limitations section and may have contributed to the non-significant findings listed above.

Ultimately the different pattern of results for intrinsic and extrinsic motivation support the extensive literature surrounding the idea that the two are separate and distinct constructs (Gagné & Deci, 2005) and not simply opposite sides of the same continuum. They mean very different things and are differentially affected by many factors. These

findings suggest that feedback is one of these factors. The patterns of intrinsic and extrinsic motivation were quite different for each feedback group and this difference was most evident at the time when feedback varied (i.e., time 2 and onwards).

No Feedback and its Effect on Motivation

Both types of motivation did not change significantly over time when people were not given any feedback (see figures 3a-b and 6a-b). This helps to support the finding that developmental feedback was, in fact, an influential factor on intrinsic motivation given that no significant results were found for the evaluative and the no feedback group. Also, the no feedback group seemed to have the most stable levels of both motivations over time when comparing the patterns of the other two groups which again suggests the influential effect of feedback (or lack thereof).

People who do not receive feedback were not significantly less motivated than the two groups who actually did receive feedback. This may be better understood when looking at previous research that has found that people who receive little, poor quality or even misleading feedback on a day-to-day basis may have overinflated confidence in their abilities. Such over inflation may lead to the perception that feedback is not necessary (Gregory et al., 2011). From this, it may be that these people were motivated towards the activity but this motivation may not have translated into increased effort and quality performance. Therefore, it is still unclear whether feedback, in general, is better than no feedback at all.

Feedback and Goals

One way of determining people's intentions for performance is by looking at the goals that they set. Goals are important because they direct people's behaviour. Goal-

setting helps people not only to determine where they will allocate their attention, effort and time on a task but also to plan which strategies they will use to accomplish the task (Locke & Latham, 2002). Previous research has found that groups receiving feedback combined with their goal-setting perform better than groups only engaging in goal-setting but receiving no feedback and that this combination is an influential variable in determining the motivational level of employees (e.g., Kim & Hammer, 1976). Not only is the way in which people set their future goals important but also the types of goals they set as they may be indicative of their type of motivation. Since no clear connection appeared to have been made between type of feedback and type of goal, the first step in analyzing the existence of this relationship was to determine whether or not the type of feedback people receive is reflected in their subsequent goal-setting.

It was expected (Hypotheses 3a-b) that the participants who received developmental feedback would be more likely to set more process goals (Earley et al., 1990) than both the participants who received evaluative feedback and those who received no feedback. This hypothesis stemmed from research determining that developmental feedback or process feedback is more useful than outcome feedback embedded in evaluative feedback. This is because process feedback enables people to generate their own feedback about the process that led to the outcome and identify areas for behaviour change (Gregory et al., 2011). Therefore, it was expected that participants receiving developmental feedback set more process-oriented goals. However, this expectation was not fulfilled where people receiving developmental feedback did not set significantly more process goals than those receiving evaluative or no feedback (see Figure 7). This means no support was found for Hypotheses 3(a-b). Feedback orientation

may help to explain why the groups did not vary. Feedback orientation is a multidimensional construct that influences the degree to which people seek, value, process and feel accountable to use the feedback they are given (Linderbaum & Levy, 2010; London & Smither, 2002). Feedback orientation lies on a continuum from those who have a strong feedback orientation who are likely to be more receptive to feedback and coaching in general and those who have a low feedback orientation and who are less receptive to and find less value in feedback. Since people vary in feedback orientation, it may be that these individual differences interacted with the feedback groups and made any potential results hard to decipher.

As such, the expectation that participants receiving evaluative feedback would set more outcome goals than those receiving developmental feedback was not supported (Hypothesis 4a). It may be the case that the feedback given to participants in the evaluative group was not varied enough (i.e., only two types of possible feedback responses unlike the developmental group which had four types of possible feedback responses) (see Appendix B for feedback script). This may have influenced participants to place less value on the feedback over time and subsequently no longer significantly reflecting the feedback in their goal setting. Lastly, contrary to the expected outcome (Hypothesis 4b), participants in the evaluative feedback did not set more outcome goals than participants in the no feedback group.

It was also found that all participants set significantly more process goals than outcome goals, regardless of the feedback they were given. To understand why this occurred, some research has suggested that although feedback givers intend their specific feedback to dictate goal-setting, this may not always be the case (Ashford & Northcraft,

2003). Previous research has found that people actively take steps to seek feedback (Ashford & Northcraft, 2003) from multiple sources. This means that if people are not receiving feedback they find useful or influential from one source, they may consequently seek feedback from another source. This may explain why all participants set more process goals than outcome goals, even participants who received no feedback, because they found other sources to act as feedback to inspire their goals. The criteria used to code a goal as a process goal (i.e., focused on the way in which schedules were made and strategies used to make them) then may have better encapsulated the goals that were based on feedback sources other than the feedback (or lack thereof).

Additionally, the feedback environment in which people are working has been found to likely influence goal content as it signals the priorities of the feedback giver (Ashford & Northcraft, 2003; Dahling & O'Malley, 2011). It is from this feedback environment that other sources of feedback can be found and influence goal-setting. For example, people who did not receive feedback may have been using feedback from the task materials such that if they were unable to make four schedules (i.e., fill a full page) they may have considered this as underperforming. This could have acted as a form of feedback and informed the outcome goals that this group set.

Motivation and New and More Challenging Goals

Even though feedback did not influence goal content directly, it was of interest to determine if motivation influenced goal-setting. The last analyses were conducted to explore the relationship between types of motivation that may lead to setting new and more challenging goals (discrepancy creation). Hypothesis 5(a) was supported where the more an individual is intrinsically motivated (task specific), the more likely they are to set

new and more challenging goals for themselves (see Table 11). This expectation stemmed from the extensive literature on goal setting that suggests people involved in continuous goal-setting are likely to experience increased motivation (Kuvaas, 2006; Roberts & Reed, 1996; Tubbs, 1986). The positive relationship between task specific intrinsic motivation and total number of new and more challenging goals set by participants suggests that intrinsic motivation is positively related to the construct of discrepancy-creation (i.e., setting new and more challenging goals once an initial goal has been met). Given that this proactive and growth pursuing construct has previously been found to link to goal-setting motivation in general (Bandura, 1990; Reeve, 2009), this finding presents preliminary support for the idea that the influential mechanism between feedback and the goal-setting process is task specific intrinsic motivation itself.

Further hypotheses (Hypotheses 5b and 6a-b) of relationships between task specific extrinsic motivation, general extrinsic motivation and general intrinsic motivation yielded non-significant results. One reason that may explain why extrinsic motivation was not related to setting new and more challenging goals is that people who are extrinsically motivated may be less apt at self-regulation. Previous research suggests that extrinsic motivators have been found to undermine individual's long-term capacity for autonomous self-regulation (Reeve, 2009) and lead to more rigid and impatient behaviours with regards to task engagement (Garbarino, 1975). Given that self-regulation is a core premise of discrepancy creation based on control theory, it follows that people who have a difficulty self-regulating would likely be less involved in continuous goal-setting.

Other reasons that may explain the non-significant results are more methodological in nature. Because the three measures were based on the breadth or bandwidth of the constructs (instead of the fidelity) and consequently focused on representing the constructs with more varied items which naturally lead to lower internal consistency (Cronbach, 1960; Cronbach & Gleser, 1965; Hogan & Roberts, 1996; Murphy, 1993; Ones & Viswesvaran 1996). This made the relationship specific to setting new and more challenging goals difficult to decipher or perhaps it had simply yet to emerge. That being said, given that most criteria that are of importance in organizational settings are complex in nature with many factors combining to cause the behaviour of interest (Ones & Viswesvaran, 1996), measures with increased bandwidth producing complex and rich criteria and predictors have been found to work best (Ones, Mount, Barrick and Hunter, 1994b). The measures of these constructs contained subscales that may have interacted with the setting of new and more challenging goals in opposite directions therefore suppressing any potential correlation between the construct itself and the goals.

Goal Orientation and Discrepancy Creation

Finally, with regards to the exploratory measure of the Goal Orientation Inventory (GOI, Batton et al., 1996) significant correlations were found that were in line with previous research. Researchers have found that people who have strong learning (or mastery) goal orientations are often motivated to improve their work performance and perceive process (or developmental) feedback as not only informative but also helpful (Park, Schmidt, Scheu, & DeShon, 2007). Also, researchers suggest that performance oriented people are motivated to demonstrate their skills to others or avoid revealing a

lack of skills to others and therefore are less likely to value process (or developmental) feedback and more likely to value normative (or evaluative) feedback. Essentially, these people are less likely to seek high quality, useful feedback (Park et al., 2007). From this previous research, the exploratory measure was added with the expectation that people who have a strong learning goal orientation may also be more intrinsically motivated and that people who have a strong performance goal orientation may also be more extrinsically motivated. This was found to be the case as each corresponding correlation was significant. Task specific and general intrinsic motivation was positively related to learning goal orientation and task specific and general extrinsic motivation was positively related to performance goal orientation.

Combining these results and previous research suggestions, it was then of interest to explore whether or not people who had received developmental feedback would have a higher learning goal orientation and people who received evaluative feedback would have a higher performance orientation. This was potentially expected as goal orientations have been found to have some characteristics of stable traits but also to be malleable (e.g., DeShon & Gillespie, 2005; Utman, 1997). From this, there was a possibility that type of feedback may have influenced goal-orientation. However, these relationships were not significant.

Previous research has suggested that it may be useful to determine if a learning goal orientation is associated with a tendency to rapidly increase one's personal goals over time (Batton et al., 1996). The authors suggest that this would allow the individual to continually challenge oneself as past goals are surpassed (Batton et al., 1996). This goes hand in hand with discrepancy creation as it relates to goal orientation. The current

study found a learning goal orientation was positively related to setting new and more challenging goals. A performance goal orientation, however, was not correlated with setting new and more challenging goals. These results then demonstrate that learning goal orientations are positively related to discrepancy creation. Given that, as previously mentioned, goal orientations may be somewhat malleable, it would be useful to determine how goal orientation may be influenced. Since intrinsic motivation was positively related to learning goal orientation, it may follow learning goal orientation moderates or mediates the relationship between intrinsic motivation and the setting of new and more challenging goals.

CHAPTER VI

THEORETICAL IMPLICATIONS

The study of motivation has yielded an influential body of research and although many have already argued the idea that its dimensions (i.e., intrinsic and extrinsic) are two distinct constructs that lie on separate continuum (Gagné & Deci, 2005), some have also argued that they both exist on the same continuum. The current study provides further empirical evidence for the former where participants were found to experience different levels of both types of motivation simultaneously meaning they are two distinct and separate constructs.

This finding also contributes to the potential occurrence of an overjustification effect where over time extrinsic rewards or potentially external feedback could create confusion in the participants who were initially performing the task because they enjoyed it (Deci, 1971). The overjustification effect takes place when participants begin to wonder why they are performing the task, for enjoyment or for external rewards such as feedback. This may explain why intrinsic and extrinsic motivations fluctuated differently over time. Further investigation of the overjustification effect and its relation to feedback given in performance appraisals would be an interesting area for future research on work motivation. The overjustification effect also helps to better understand reasons as to why the participants who received no feedback experienced more stable levels of intrinsic motivation. It is likely the case that participants who initially enjoyed the task were able to continue enjoying the task when no external rewards (i.e., feedback) were presented. Furthermore, it is interesting to note that participants receiving developmental feedback were seen to experience less of a decrease in intrinsic motivation over time. This may mean that the overjustification effect still took place however developmental feedback

enabled it to be to a lesser extent. Therefore, this may be a fruitful avenue for research on the multiple uses of developmental feedback towards influencing intrinsic motivation.

Results from this study go hand in hand with previous research on goal-setting theory where it has been found that goal-setting and feedback, when paired together, positively influence performance. The current study's findings demonstrate that developmental feedback, over time, leads to higher levels of task specific intrinsic motivation and this motivation is also positively related to setting new and more challenging goals. Previous research has found that intrinsically motivated employees are more autonomous and self-driven than employees who are less intrinsically motivated (e.g., Ryan & Deci, 2000). This occurs because these employees are motivated by their own interest and are likely to work harder and take on more challenges simply for the experience of pleasure which leads to feelings of self-determination and competence. Therefore, the finding that feedback can positively influence intrinsic motivation over time is influential given the multiple benefits that accompany an intrinsically motivated work force.

Given that discrepancy-creation is a proactive and growth pursuing construct (Bandura, 1990; Reeve, 2009) it naturally follows that determining the factors that initiate its occurrence is essential. Therefore, the finding that intrinsically motivated participants were likely to set more new and challenging goals suggests that intrinsic motivation is an important factor contributing to discrepancy-creation (i.e., creating new goals once previous goals have been met). The finding that participants who had a strong learning goal orientation were likely to be more intrinsically motivated and to set more new and challenging goals is also of importance and furthers the body of literature in this area of

research. It suggests that learning goal orientations are also an important factor contributing to discrepancy-creation.

Researchers have previously suggested that work motivation theories have generally failed to incorporate time as an influential variable on people's motivation (George & Jones, 2000; Rousseau & Fried, 2001) although some research has begun to investigate it further (Fried & Slowik, 2004). The current study's findings indicate that future research should observe the effect of time on motivation more carefully as well as the effect feedback has on motivation over broader scopes of time (i.e., longitudinally). The significant effects of this study were found to occur when developmental feedback was given over time. This finding makes sense conceptually since useful feedback is intended to be given as part of a continuous, often informal and developmental process. Essentially, feedback over time is inherent in the purpose of developmental feedback and further supports previous research and potentially suggests that feedback given through performance appraisals should be an ongoing process in order to influence work motivation.

CHAPTER VII PRACTICAL IMPLICATIONS

Managers can and do see motivation as an integral component that filters through all areas of performance in the workplace (Steers et al., 2004). Given the numerous benefits (e.g., job satisfaction, self-determination, goal commitment) associated with employees working from an intrinsically motivated standpoint, this finding has practical implications for managers who seek to find ways to influence this type of motivation. The current study suggests that the answer lies in the type of feedback they are delivering to their employees. The current study's findings demonstrate that developmental feedback given over time is influential towards people maintaining their level of intrinsic motivation. Translating this into the workplace, giving developmental feedback to employees can act as a motivational tool for ensuring employees' intrinsic motivation is maintained, at least more so, than would be the case if they were given evaluative feedback or no feedback at all. The finding that developmental feedback contributes to maintaining intrinsic motivation is also of importance to managers who have been found to frequently avoid performance management activities, especially providing developmental feedback (O'Leary & Pulakos, 2011). This finding may help to curb the tendency of managers to avoid giving developmental feedback because they fear they may damage the relationships they currently have with the very employees they rely on to get work done (O'Leary & Pulakos, 2011). From this, it may also be recommended that managers need to be better trained to understand the value of feedback (Dahling & O'Malley, 2011). If they view feedback as a motivational tool, they may be less afraid and more willing to use it.

Previous research has suggested that ideally—and most common in actual

practice—developmental and evaluative functions of feedback are both used in conjunction in the workplace. From the current study’s findings perhaps it would be important to investigate whether managers’ choice should be between developmental feedback and no feedback at all when looking at positively influencing intrinsic motivation. Nevertheless, it remains that the evaluative function of feedback appears to be quite necessary to the functioning of the workplace (e.g., for administrative decisions such as promotions, terminations and pay distribution) (Boswell & Boudreau, 2002). From this study’s findings, it is suggested that evaluative functions should only be used as an aspect of developmental feedback and that it should only be couched in the context of developing the employee instead of evaluating the employee. This means, evaluative feedback alone is not the answer towards increasing or even maintaining task specific intrinsic motivation. Managers should be aware of this finding given that they currently rely so heavily upon this type of feedback.

Turning to the finding that all participants set more process goals than outcome goals regardless of the feedback they were given. It may have been the case that those receiving evaluative feedback which did not vary substantially (evaluative feedback could only be one of two options) did, in fact, set goals that reflected this. Because their feedback may not have provided them with an opportunity to set varied outcome goals they may have been forced to turn to process goals to keep themselves motivated. However, evaluative feedback given through performance appraisals often is just that: not varied enough. Researchers have found that performance appraisals as part of performance management have become largely an administrative drill (O’Leary & Pulakos, 2011) and therefore are not used as a motivational tool. These results may

indicate a new avenue of research where invariable feedback may lead to fewer instances of goal-setting or goal-setting that is not related to the given feedback. Essentially, it may be that managers, who use evaluative feedback through performance appraisals only, are wasting the opportunity to influence their employees' subsequent goal-setting.

Researchers have suggested that success in today's workplace is fundamentally due to people's ability to not only monitor but also regulate their own behavior (Lord, Diefendorff, Schmidt, & Hall, 2010). From this, it is evident that determining how to influence continuous self-regulation through goal-setting is important. Participants who were intrinsically motivated by the task were found to set more new and challenging goals. This relationship is important in furthering the argument that managers should actively aim to positively influence their employee's intrinsic motivation. Extensive research has substantiated that goal-setting and feedback go hand in hand towards higher motivation for improving performance. Therefore, taken all together the current research findings support the recommendation that managers should be using appropriate (developmental) feedback leading to higher levels of task specific intrinsic motivation and the setting of new and more challenging goals which ultimately may lead to improved work performance.

It should be noted that the current study did not find *general* intrinsic motivation to be positively related to the setting of new and more challenging goals although *task specific* intrinsic motivation was. This result suggests that although managers are often concerned about their employee's general work motivation and their motivation to improve work performance (e.g., Kam, Risavy, Perunovic & Plant, 2012), it may be the case that task specific motivation is more influential on goal-setting and ultimately work

performance. This may indicate that employees are motivated to varying degrees depending upon the task they are working on and to attempt to influence general job motivation is potentially futile. Instead, this result may tentatively point to the idea that task specific intrinsic motivation should, in fact, be the target at hand for managers who are seeking to motivate their employees to engage in continuous goal-setting at work. It also may be that a job is not viewed in its entirety when people think of how motivated they are to work. People may be motivated by certain aspects of their job (e.g., certain tasks) and less so by other aspects and therefore people may focus on these specific aspects when indicating how motivated they are to work. Therefore, research should investigate whether it may be more fruitful to move away from looking at general job motivation and move towards measuring and influencing task specific motivation.

With regards to the exploratory measure of goal orientation, several implications of learning and performance goal orientations are evident. Previous research had suggested that these goal orientations may carry practical applications for managerial practices such as potential establishment of quarterly performance goals, the administration of performance appraisals, and the implementation of training programs (Bobko & Colella, 1994; Farr et al., 1993). This feedback could essentially be designed to tap into not only intrinsic motivation but also to influence goal orientations. One potential avenue for this is executive coaching where coaches can influence their clients' goal orientations in order to facilitate feedback use and seeking (Dragoni, 2005).

Finally, these same authors suggest that goal orientation may also influence an employee's affective, cognitive, and behavioral reactions to performance appraisal feedback and that goal orientation may impact an employee's level of motivation to

participate in training programs, their performance in these programs, and the degree to which the trained knowledge and skills are transferred to the job setting (Batton, et al., 1996).

Cultural Considerations and Feedback

One last important consideration when attempting to influence intrinsic motivation with the use of feedback is that of cultural variables and their implications on performance appraisals. Two cultural dimensions to take into account are that of power distance and individualism/ collectivism (Hofstede, 1980, 1991). Fletcher (2001) summarized these important aspects indicating research that suggests that for cultures where power distances are high, managers and their employees do not consider themselves as equals (e.g., Fletcher & Perry, 2001; Milliman et al., 1998). Whereas, in cultures of low power distance, managers are more often seen to have collegial relationships with their employees which foster greater equality, cooperation and participation between employees of different organizational rankings. These considerations are important when attempting to understand the degree to which managers can influence their employees and vice versa. Some research has suggested that managers in organizations with high power distance may be reluctant to engage in the two-way communication process necessary for performance appraisals (e.g., Huo & Von Glinow, 1995). This has important consequences for the likelihood that these managers engage in giving their employees developmental feedback. An important question to investigate would be if employees from high power distance cultures would still prefer developmental feedback (over evaluative or no feedback) and how it influences their work motivation.

The second cultural consideration is the individualism and collectivism dimension of culture. This dimension is influential in that people in individualistic cultures have a higher tendency of acting in their own interests and from their own initiatives whereas people in collectivistic cultures put the interests of the group first and foremost. Some research (e.g., Elenkov, 1998) has indicated that an implication from this dimension suggests that direct feedback is perceived as less acceptable in collectivistic cultures. Discussing an individual's performance openly, in these cultures, is seen as a major *faux pas* as this risks breaking the harmony among society (Cascio, 2011) and lead to "losing face" (Hofstede, 2001; Hofstede & Hofstede, 2005). This is an important consideration as developmental feedback is often entirely focused on developing the individual and therefore it may also be seen as less acceptable in collectivistic cultures. Furthermore, in collectivistic cultures where most people view contributions as coming from everyone aiming to achieve continuous improvement, singling out individual employees for reward or reprimand with regards to individual contribution may be detrimental. This type of event would again potentially lead to the individual "losing face" among coworkers. It is common in collectivistic cultures for feedback to be given indirectly through a mutually respected intermediary or through engaging in subtle behaviours such as withdrawing a normal favor (Hofstede 2001; Hofstede & Hofstede 2005). Therefore, future research would need to investigate how developmental feedback can be delivered in a group context or how developmental feedback can be given in an appropriate manner in collectivistic cultures. Whether or not individual feedback would be at all motivating in collectivistic cultures would also be an important question to answer.

CHAPTER VIII

LIMITATIONS & FUTURE RESEARCH

Although the general intrinsic and general extrinsic motivation scales adapted from the WPI were only employed for two of the current study's hypotheses, it is important to further explore its characteristics given the non-significant findings. The data were analyzed using AMOS (Arbuckle, 1997) where the appropriateness of the two-factor model was evaluated and demonstrated a poor fit. The model was represented by the intrinsic motivation (15 items) and extrinsic motivation (15 items) primary scales of the WPI. Results from the CFA demonstrated a poor fit with the two-factor model which replicates Loo's (2001) findings, Chi-square, $\chi^2 = 969.774$, $p < .001$, $df = 404$, RMSEA = .095, CFI = .360, TLI = .263. These results are in accordance with previous research where it was suggested that a better fit could be found with the 4 secondary factors model (Amabile et al., 1994; Loo, 2001). However, Amabile and colleagues decided to retain both sets of scales because the intrinsic-extrinsic distinction is so frequently used (1994, p.957) which is partly why it was retained for the current study as well. The WPI appeared as the most appropriate choice of measure for the current study as it assessed general extrinsic and intrinsic motivation mostly in accordance with self-determination theory along with other important and well-established elements of the constructs. The scales, as they were, did show useful correlation patterns with the expected and appropriate measures such as the task specific intrinsic motivation measure (from the IMI) and the two scales (learning and performance) from the GOI. This demonstrates evidence for the construct validity of the WPI and complements Amabile et al's (1994) and Loo's (2001) research.

It is, however, recommended that further psychometric refinement be conducted on this measure in order to ensure that the two important scales of intrinsic and extrinsic motivation are easily and clearly recoverable in item-factor analyses. Loo (2001) makes many suggestions where the WPI may be a useful tool in the future. He states “The WPI could be used to help supervisors better understand the complex nature of work motivation and more effectively make use of the variety of available motivators, both intrinsic and extrinsic, with their staff” (p.232). From the current study, this recommendation would be supported upon further psychometric refinement of the measure as this measure would help to inform useful, motivational and developmental performance appraisal feedback as it pertains to each individual.

Turning to other potential limitations in the current study, the first is in regards to the empirical results being based on a predominantly female sample. This may have impacted the results and one example may be where females, often being more expressive than males, may have set more process goals and given that the sample was mostly female it may explain why overall the entire sample set more process goals than outcome goals. Additionally, the sample came mostly from students who were taking undergraduate psychology courses (although a fraction of the sample did come from participants outside of psychology classes). Further data collection may be fruitful in order to obtain a more balanced number of male and female participants across different departments which will further increase the generalizability of the current study’s findings.

Another potential limitation is the measurement of task specific extrinsic motivation. The measure used had a slightly less than ideal level of internal consistency

($\alpha = .63$), it had an item (item 3, as previously mentioned in the measures section) that may have been problematic given the design of the study including goal-setting and lastly the sample size of the current study did not quite reach the desired number recommended by the previously conducted power analysis ($N = 159 < 182$). All these factors taken together may have reduced the power of the experiment and potentially increased Type II error (not finding significant differences when in fact differences exist). Although some expected trends could be observed, this may explain why some results including task specific extrinsic motivation were not significant. That being said, the measure was found to correlate in the expected directions with other important constructs. For example, task specific extrinsic motivation correlated positively with the proxy for extrinsic motivation (i.e., the performance goal orientation scale of the Goal Orientation Inventory) and negatively with measures of intrinsic motivation. Given that trends and correlations were still in the expected directions, it is entirely possible that with more power (i.e., bigger sample) and a few additional items added to this measure, Type II error could be easily reduced and important findings would then emerge.

One last limitation with respect to the measures used for the current study is related to the perceived complexity of the task measure. Item 3 “I got so I could predict just about what I would need to do to complete a schedule” (as previously mentioned in the measures section) was found to lead to confusion of many participants and some grammatical reworking may be necessary to improve the reliability of this measure and reduce its ambiguity. This item could be changed to “I got to a point where I could predict...” A second item (item 4: “The scheduling requirements for each schedule changed a lot”) created for previous studies where goals were set for participants may

also have been inappropriate given that the current study allowed participants to set their own goals and therefore the requirements of the task did not in fact “change a lot”. This item could potentially be changed to “The scheduling options (e.g., classes, times, sections and days) for making schedules varied a lot”. Given that this measure was used simply to mirror what previous studies using the same task had undergone, this limitation is minimal and with the suggested changes should subsequently be non-existent.

Some considerations associated with the design of the current study should be taken into account. The first is that of the limitations associated with correlations where causality cannot be assumed. However, the strength of the current study lied in the fact that the majority of the study empirically tested the relationships between feedback, motivation and goals, and therefore some causal relationships were observed. Additionally, actual performance was measured in this study (although no hypotheses were initially made) and further exploration of the data will provide more opportunities for causal inferences.

Although the experiment included repeated measures giving participants four trials, the entire session took place in just a 90 minute period. It would be important to test these relationships in a more longitudinal design where it would mirror workplace feedback delivered through performance appraisals which are often given over longer periods of time, formally and informally. Additionally, the mixture of cross-sectional (90 minute period) and longitudinal design (repeated trials) used for this study introduced other potential limitations of common-method bias and common-source bias. While common method bias can be a significant problem in some study designs as it may lead to spurious relationships between motivation and its correlates, Spector (2006) has

adamantly argued that concerns about common method bias, particularly for survey questionnaire-based studies, are overstated. Nonetheless, some steps were taken to reduce the influence of this potential problem. Podsakoff et al. (2003) provide some suggestions to minimize common-method bias in this regard (e.g., ensure anonymity in survey administration and improve items used to measure constructs).

Both these recommendations were followed where anonymity was specified in the consent form read and signed by participants at the onset of the study and this served to reduce participants' potential evaluation apprehension and the likelihood that responses would be edited in a more socially desirable, lenient or acquiescent manner (Podsakoff, 2003). This may have been problematic, for example, where participants may not have wanted to admit that their participation was mainly contingent upon receiving a bonus point towards their final course grade (instead of the socially desirable answer of participating out of interest for psychological research) and therefore they may have underreported their feelings on extrinsic motivation items. It may have been useful to include a social desirability scale in order to control for this potential limitation. However, the added use of an implicit measure of motivation (setting new and more challenging goals) instead of only using the subjective self-report motivation measure countered this limitation to a certain extent. Second, the measures used for this study were mostly clear and not ambiguous as they were almost all taken from previous studies and this served the purpose of reducing any item ambiguity which was also recommended by Podsakoff (2003). Third, the study was not only founded upon strong empirical findings, which give more confidence that the causal linkages are correctly specified, but also was an empirical investigation itself using an experimental method which takes much

of the current body of research (many of which use solely a questionnaire method) one step further.

Turning to goals, it was expected that participants who received developmental feedback would set more process goals compared to participants who received evaluative feedback and who were expected to set more outcome goals than participants who received developmental feedback. These expectations were not fulfilled although a careful examination of the results showed that the predicted trends were in the right direction. Although these trends were emerging, they were not statistically significant. It was found that all participants set significantly more process goals, regardless of the feedback they were given. One reason for this may be because of the way in which the goals were coded, only goals relating to the number of schedules a participant aimed to make were counted as outcome goals. This means that all other types of goals (e.g., relating to speed, accuracy, strategy, and process) were coded as process goals. It may be the case that key words such as “efficiency” “productivity” and “speed” should have been included as criteria for outcome goals instead of process and that the coding criteria for outcome goals was too stringent. However, the argument can be and was made that those key words related to the way in which participants were making their schedules and therefore indicated process goals. More work on type of goals individuals set may be useful to clarify the issue of coding type of goals criteria among others.

CHAPTER IX CONCLUSIONS

Feedback delivered through performance appraisals as part of a successful performance management program is essential. Transitioning the view from performance management implemented as an administrative activity to performance management as a motivational tool is the key towards effectively accomplishing work through others (Pulakos & O'Leary, 2011). It is not only important to understand that many different types of feedback exist but also that they each influence people's motivation towards a task in varying ways. When feedback is framed and used as a mechanism for developing employees, it demonstrates that their managers care not only about their performance but also about the development of their skills and abilities. Previous research has shown some workplace evidence that when employees perceive feedback as being used towards their development, they become more motivated. The current study provided empirical evidence that supports previous research and furthers it by looking at how types of feedback influence types of motivation.

The workplace setting is always in a constant state of flux and with these influential changes, managers are keenly aware of the way their company attempts not only to attract and retain but even more so to motivate their employees (Steers et al., 2004). Understanding how feedback influences people's different types of motivation towards the tasks that they perform is useful as it helps us to understand what drives each individual to perform and to predict what people will do with this feedback in terms of the goals that they set which inform future work performance. From this, the demonstrated role of feedback through performance appraisals in shaping types of motivational approaches to a task, whether intrinsic or extrinsic, is clearly relevant to organizational

practice. The current study's findings indicate that the study of intrinsic motivation in specific contexts (i.e. developmental feedback through performance appraisals) is useful towards the identification of unique pathways by which motivation can affect work behavior (Kanfer, 2009) such as goal-setting, goal orientation, discrepancy-creation and ultimately job performance.

APPENDIX A

Table 1. *Methodological Order of Experiment*

	Step	Details
1	Consent form, WPI ²	Paper and pencil
2	Practice trial (4mins)	Make course schedules
3	Feedback	Developmental, evaluative or no feedback
4	IMI ³ , Extrinsic-task ⁴ , and self-set goal	Paper and pencil
5	Trial 1 (8mins)	Make course schedules
6	Feedback	Developmental, evaluative or no feedback
7	IMI, Extrinsic-task, and self-set goal	Paper and pencil
8	Trial 2 (8mins)	Make course schedules
9	Feedback	Developmental, evaluative or no feedback
10	IMI, Extrinsic-task, and self-set goal	Paper and pencil
11	Trial 3 (8mins)	Make course schedules
12	Feedback	Developmental, evaluative or no feedback
13	IMI, Extrinsic-task, and self-set goal	Paper and pencil
14	Manipulation checks	Performance appraisal use, task complexity and goal orientation
15	Debriefing	With experimenter

² Work Preference Inventory

³ Intrinsic Motivation Inventory

⁴ Task-Specific Extrinsic Motivation

Instructions (From Seijts & Latham, 2001)

This package contains a list of 12 *courses* (i.e., English as a second language, speech communications, business writing, introduction to organizational behavior, organizational behavior quiz, introduction to human resource management, human resource management quiz, business policy, Canadian taxation, accounting, finance, consumer behavior, marketing strategy, and marketing research), each with 10 possible sections, and blank schedules. Please take a moment to examine these materials. (*Note.* M= Monday, T= Tuesday, W=Wednesday, Th= Thursday, and F= Friday).

In completing the class schedules, use the following rules:

1. a completed schedule will indicate (a) the course name, (b) its code, (c) meeting times, and (d) section;
2. each schedule must have 5 *difference classes* scheduled on *the same day*;
3. each schedule must be *unique*; it cannot duplicate another schedule;
4. any course with a quiz section must have the quiz section schedules *on the same day* as the class;
5. no two marketing courses (i.e., consumer behavior, marketing strategy, and marketing research) can be scheduled within one hour of each other; and
6. any *speech communication* lecture class must have a *lab class* scheduled as well.

An example of a correct class schedule is...

An example of an incorrect class schedule is...

APPENDIX B

Feedback Script

Developmental

“You’ve completed the first trial. For this first trial, you did x well and you had more difficulty with y . Here is a suggestion in order for you to develop your skill on the next trial. Try to think of any strategies or shortcuts that you may implement as you are working.”

X

- you made use of the strategy “repeatedly scheduling the same subject”
- you made use of the strategy “repeatedly schedule the same section”
- you made use of the strategy “scheduling night classes”
- you made use of the strategy “recording class names and times chronologically”

Y

- you had difficulty completing schedules correctly (refer to rules)
- you had difficulty making schedules efficiently

Evaluative

“You’ve performed at an average level in comparison to other students and completed the first trial. For this first trial, you had some difficulty with y perhaps try increasing your level of productivity on the next trial”.

Y

- you had difficulty completing schedules correctly (refer to rules)
- you had difficulty making schedules efficiently

Control

“You’ve completed the first trial, proceed to the next.”

APPENDIX C - MEASURES

Work Preference Inventory

For each of the following items, please indicate the extent to which you agree or disagree that your performance appraisal was used for each particular purpose, using the following scale:



1. I enjoy tackling problems that are completely new to me (I, Ch)
2. I enjoy trying to solve complex problems (I, Ch)
3. The more difficult the problem, the more I enjoy trying to solve it (I, Ch)
4. I want my work to provide me with opportunities for increasing my knowledge and skills (I, E)
5. Curiosity is the driving force behind much of what I do (I, E)
6. I want to find out how good I really can be at my work (I, E)
7. I prefer to figure things out for myself (I, E)
8. What matters most to me is enjoying what I do (I, E)
9. It is important for me to have an outlet for self-expression (I, E)
10. I prefer work I know I can do well over work that stretches my abilities (I, Ch, R)
11. No matter what the outcomes of a project, I am satisfied if I feel I gained a new experience (I, E)
12. I'm more comfortable when I can set my own goals (I, E)
13. I enjoy doing work that is so absorbing that I forget about everything else (I, E)
14. It is important for me to be able to do what I most enjoy (I, E)
15. I enjoy relatively simple, straightforward tasks (I, Ch, R)
16. I am strongly motivated by the grades I can earn (E, C)
17. I am keenly aware of the GPA goals I have for myself (E, C)
18. I am strongly motivated by the recognition I can earn from other people (E, O)
19. I want other people to find out how good I really can be at my work (E, O)
20. I seldom think about grades and awards (E, C, R)
21. I am keenly aware of the goals I have for getting good grades (E, C)
22. To me, success means doing better than other people (E, O)
23. I have to feel that I'm earning something for what I do (E, O)
24. As long as I can do what I enjoy, I'm not that concerned about exactly what grades or awards I can earn (E, C, R)
25. I believe that there is no point in doing a good job if nobody else knows about it (E, O)
26. I'm concerned about how other people are going to react to my ideas (E, O)
27. I prefer working on projects with clearly specified procedures (E, O)
28. I'm less concerned with what work I do than what I get for it (E, O)
29. I am not that concerned about what other people think of my work (E, O, R)
30. I prefer having someone set clear goals for me in my work (E, O)

First Letter

I – Intrinsic
E – Extrinsic

Second Letter

E – Enjoyment
Ch – Challenge
O – Outward
C – Compensation

Third Letter

R – Reverse code

THE POST-EXPERIMENTAL INTRINSIC MOTIVATION INVENTORY

For each of the following statements, please indicate how true it is for you, using the following scale:

1 2 3 4 5 6 7
not at all true somewhat true very true

Interest/Enjoyment

I enjoyed doing this activity very much

This activity was fun to do.

I thought this was a boring activity. (R)

This activity did not hold my attention at all. (R)

I would describe this activity as very interesting.

I thought this activity was quite enjoyable.

While I was doing this activity, I was thinking about how much I enjoyed it.

Perceived Competence

I think I am pretty good at this activity.

I think I did pretty well at this activity, compared to other students.

After working at this activity for a while, I felt pretty competent.

I am satisfied with my performance at this task.

I was pretty skilled at this activity.

This was an activity that I couldn't do very well. (R)

Effort/Importance

I put a lot of effort into this.

I didn't try very hard to do well at this activity. (R)

I tried very hard on this activity.

It was important to me to do well at this task.

I didn't put much energy into this. (R)

Perceived Choice

I believe I had some choice about setting goals for this task.

I felt like it was not my own choice to set goals for this task. (R)

I didn't really have a choice about setting goals. (R)

I felt like I had to set goals for this task. (R)

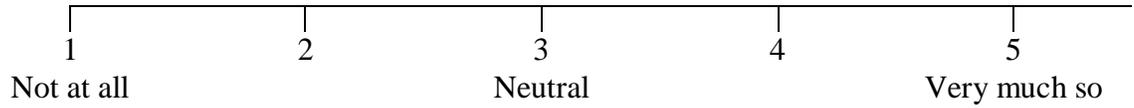
I set goals for this task because I had no choice.(R)

I set goals for this task because I wanted to.

I set goals for this task because I had to.(R)

Perceived Complexity of the Task

For each of the following statements, please indicate how true it is for you, using the following scale:



- Many times I had to check one thing before I scheduled something else
- I had to think about a lot of different things at the same time to successfully perform this task
- I got so I could predict just about what I would need to do to complete a schedule
- The scheduling requirements for each schedule changed a lot

Goal Orientation Items

Performance goal orientation

1. I prefer to do things that I can do well rather than things that I do poorly.
2. I'm happiest at work when I perform tasks on which I know that I won't make any errors.
3. The things I enjoy the most are the things I do the best.
4. The opinions others have about how well I can do certain things are important to me.
5. I feel smart when I do something without making any mistakes.
6. I like to be fairly confident that I can successfully perform a task before I attempt it.
7. I like to work on task that I have done well on in the past.
8. I feel smart when I can do something better than most other people.

Learning goal orientation

1. The opportunity to do challenging work is important to me.
2. When I fail to complete a difficult task, I plan to try harder the next time I work on it.
3. I prefer to work on tasks that force me to learn new things.
4. The opportunity to learn new things is important to me.
5. I do my best when I'm working on a fairly difficult task.
6. I try hard to improve on my past performance.
7. The opportunity to extend the range of my abilities is important to me.
8. When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work.

APPENDIX D

Debriefing Script – Given Verbally

The purpose of this study was to determine what different types of feedback affect people's motivation to set new and more challenging goals. There were three groups who received different types of feedback (i.e., developmental or evaluative) or no feedback at all. Research has shown that certain types of feedback lead to better performance and my suggestion was that certain types of feedback influence motivation which then leads people to set new and more challenging goals. Therefore, I was really interested in the goals that you set and your levels of motivation as it pertained to the type of feedback you were given. This means, I was not looking at the way in which you make your course schedule but more how the feedback I was giving you affected your motivation and the goals that you set for the next trial.

Now that you know the true purpose of the study, do you feel any differently? Did you think we were really looking at how you were making your course schedule? If not, what did you think we were trying to understand?

At this time, I would welcome any questions or concerns you may have about the experiment.

Lastly, I would appreciate if you did not communicate the purpose or details of this study to anyone as this may compromise the quality of subsequent data collection.

Thank you for your participation!

APPENDIX E

Table 2(b). Demographics

Demographic	Developmental		Evaluative		Control		Totals	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Ethnic origin								
British Isles (e.g., Irish)	6	11.5	6	11.5	6	11.8	18	11.6
Western European	1	1.9	6	11.5	5	9.8	12	7.7
Northern European	1	1.9	1	1.9	0	0	2	1.3
Eastern European	4	7.7	4	7.7	4	7.8	12	7.7
Southern European	1	1.9	1	1.9	2	3.9	4	2.6
French	3	5.8	4	7.7	6	11.8	13	8.4
African	2	3.8	2	3.8	0	0	4	2.6
Arab	4	7.7	5	9.6	8	15.7	17	11.0
East/Southeast Asian	5	9.6	6	11.5	5	9.8	16	10.3
South Asian (e.g., East Indian)	2	3.8	0	0	0	0	2	1.3
Latin, Central, South American	1	1.9	0	0	1	2.0	2	1.3
Caribbean	4	7.7	1	1.9	1	2.0	6	3.9
Aboriginal	1	1.9	0	0	0	0	1	.6
Indians from India	0	0	1	1.9	1	2.0	2	1.3
Multiple Origins	14	26.9	13	25.0	10	19.6	37	23.9
Other Origin(s)	0	0	1	1.9	1	2.0	2	1.3
Missing	3	5.8	1	1.9	1	2.0	5	3.2
First Language								
Arabic	2	3.8	4	7.7	4	7.8	10	6.5
Cantonese	2	3.8	1	1.9	0	0	3	1.9
Chinese	3	5.8	3	5.8	0	0	6	3.9
English	37	71.2	38	73.1	39	76.5	114	73.5
Mandarin	0	0	2	3.8	0	0	2	1.3
Polish	2	3.8	0	0	0	0	2	1.3
Romanian	0	0	1	1.9	2	3.9	3	1.9
Urdu	1	1.9	0	0	1	2.0	2	1.3
Other*	3	5.8	2	3.8	5	9.8	9	5.8
Missing	2	3.8	1	1.9	1	2.0	4	2.6

*Languages indicated by only one participant: Assyrian, Bengali, Bisaya, French, Lebanese, Pashtu, Serbian, Spanish, Vietnamese

APPENDIX F

Steps for Coding – Course Schedules and Task Strategies

Step 1. Coder Initials (for each page) and Participant ID (for each table)

Step 2. Type of Goal

Outcome goal:

Related to the number of schedules a participant feels he/she can make (related to the outcome of the task)

Process goal:

Relate to the way in which the participant is going about making the schedules and strategies he/she is planning to use (related to the process in which the task will be done).

Step 3. Trial 1

This is the **baseline trial**, therefore all goals are automatically new and are not being compared to previous trials.

Step 4. Trial 2, 3 and 4

Not new: this means in comparison to the previous trial, this goal is the **exact same**.

New (new): this means we have **not** seen this goal when comparing to the previous trial.

- **New (decrease):** this means we have seen a similar goal before but it has now **decreased** (e.g., an outcome goal of making two schedules in the first trial has now changed to making 1 schedule for the second trial, e.g., a process goal of making schedules correctly and efficiently has now changed to simply making schedules correctly therefore it has decreased in complexity).

- **New (increase):** this means we have seen a similar goal before but it has now **increased** (in number-outcome goals or complexity-process goals) when comparing to the previous trial.

(e.g., an outcome goal of making two schedules in the first trial has now changed to making 3 schedules for the second trial, e.g., a process goal of making schedules correctly has now changed to making schedules correctly and efficiently).

Step 5. Total Trial Goals:

Count the number of goals per trial and indicate number in the last row (only one total per trial).

Step 6. Notes Section – if you are unsure of any goals, or you disagree with the way the goals were delineated (a,b,c ...) write it here by labeling the note participant ID and trial number

(e.g., - 3E, T1- not sure if there are 2 or 3 goals here, or 3C, T4 – not sure if it's an outcome or process goal).

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