

ABSTRACT

WEEDFALL, ANDREW. Need-Supportive Goal Assignment and the Self-Concordance Model: A Moderated Serial Mediation. (Under the direction of Dr. Samuel Pond).

Self-concordant goals are goals that align with individuals' personal interests and values. Pursuing self-concordant goals is positively associated with increases in goal attainment and the satisfaction of three basic needs (i.e., competence, autonomy, and relatedness to others). However, previous self-concordance research has only investigated the self-concordance of self-set or participatively set goals. Therefore, the present study assigned a performance goal to undergraduate students in order to assess the self-concordance of the goal and to determine whether self-concordant assigned goals are associated with same outcomes as self-set self-concordant goals. Furthermore, the present study manipulated the goal-assignment phrasing in order to determine whether need-supportive phrasing can facilitate the internalization process that is required to adopt an assigned goal as a self-concordant goal. Therefore, participants experienced one of three different experimental conditions. Through a series of mediation models, study results indicated that the need-supportiveness of the goal assignment did not affect the self-concordance or goal attainment of the assigned goal and thus no mediation occurred. The study also tested the moderating effect of core self-evaluations (CSE) on the self-concordance of the assigned goal but found no significant interaction. The implications, limitations, and suggestions for future research are discussed.

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Need-Supportive Goal Assignment and the Self-Concordance Model: A Moderated Serial
Mediation

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Need-Supportive Goal Assignment and the Self-Concordance Model: A Moderated Serial Mediation

Individuals strive to complete their goals, both personal and work related, on a day-to-day basis. Researchers agree that although setting goals improves task performance, there are moderating variables that influence the effectiveness of goal setting. For instance, goals are most effective when they are specific and difficult (Locke & Latham, 1990), when they are accompanied with feedback (Bandura & Cervone, 1983), and when they garner commitment (Erez & Zidon, 1984). More recently, researchers have discovered that the self-concordance of a goal can predict one's attainment of that goal and can lead to positive changes in well-being. A goal is self-concordant when it aligns with an individual's personal interests and values (Sheldon & Elliot, 1999). Presently, the majority, if not the entirety, of the self-concordance research has only involved self-set or participative goal setting (e.g., Greguras & Diefendorff, 2010; Koestner, Lekes, Powers, & Chicoine, 2002; Sheldon & Elliot, 1999). However, in some contexts, such as the workplace, goals may not always be self-set or participative but instead assigned to employees. Therefore, it is important to understand how these types of goals might operate through the self-concordance model to lead to the same outcomes that self-set or participative goals do.

The purpose of this research is to explore how the self-concordance model might apply to assigned goals. Specifically, I examine whether different ways of assigning goals will affect the extent to which recipients perceive them as self-concordant. Because self-concordant goals are more likely to lead to goal attainment than goals that are not self-concordant (Sheldon & Elliot, 1999), this research could have significant practical

implications for employers who regularly assign goals to their employees. Additionally, individuals who pursue and attain self-concordant goals are likely to experience greater fulfillment of their psychological needs and overall well-being (Sheldon & Elliot, 1999). Thus, this research could also have practical implications for employees who regularly receive assigned goals.

Finally, researchers claim that individuals who are high in core self-evaluations (CSE), (i.e., maintain high appraisals of self-worth, capabilities, and the control they have over life-events; Judge, Erez, Bono, & Thoresen, 2003), are more likely to set self-concordant goals (Judge, Bono, Erez, & Locke, 2005). However, some research also suggests that these appraisals may affect individuals' perceptions and motivations toward pursuing their goals. Therefore, I investigate the effect that CSE has on the self-concordance of assigned goals. Find the complete hypothesized model in Figure 1.

The Self-Concordance Model

As derived from self-determination theory (SDT; Deci & Ryan, 2000), researchers developed the self-concordance model through a series of three longitudinal studies involving individuals' personal goals (Sheldon & Elliot, 1999). Researchers originally established the model to examine why individuals pursue the goals that they set for themselves and how their motives affect their long-term well-being (Sheldon, 2002). The model illustrates a goal process that begins with the adoption and internalization of the goal and ends in changes in well-being. When goals are self-concordant, their attainment is more likely and goal pursuers experience need-satisfaction, and improved well-being (Sheldon & Elliot, 1999). This is because self-concordant goals capitalize on autonomous motivation

(Sheldon & Elliot, 1998) and accentuate an internal perceived locus of causality (PLOC). Internal PLOC is the extent to which people perceive themselves to be the cause of their behavior rather than perceiving external forces are driving their behavior (DeCharms, 1968). Sheldon & Elliot (1998) contend that when individuals pursue goals for more autonomous (internally driven) as opposed to controlled (externally driven) reasons, these goals are more likely to elicit greater effort and consequently greater goal attainment.

Because it is based on the concept of self-determination, the self-concordance continuum similarly ranges from controlled to autonomous regulatory styles of motivation for acting. Ranging from most controlled to most autonomous motivations respectively, researchers describe the four styles of goal regulation: “external,” “introjected,” “identified,” and “intrinsic” (Sheldon & Elliot, 1998). External regulation refers to instances where one’s behavior is motivated in response to an external force such as a reward or punishment or the command of an external authority figure. Introjection involves engaging in a behavior compelled by negative pressures emanating from within the self, such as guilt, anxiety, or shame. Identified motives originate from within one’s self, and because they align with one’s own interests and values, people pursue them because they “want to” rather than because they “ought to” or “have to.” Finally, intrinsic motivation prompts behavior purely for its enjoyment or pleasure (Ryan & Connell, 1989). Scholars have termed goals pursued for intrinsic or identified reasons as self-concordant goals, and have deemed goals pursued for introjected or external reasons as not self-concordant (Sheldon & Elliot, 1999).

Although the self-concordance model centers on the motivation behind one’s behavior, it also focuses on three basic psychological needs that Deci and Ryan (2000)

describe in SDT: competence, autonomy, and relatedness (Sheldon & Elliot, 1999). Competence refers to one's understanding of the necessary behaviors required to obtain desired outcomes and to one's ability to execute such behaviors. Autonomy relates to how much one can regulate and initiate one's own behavior. Lastly, relatedness refers to the need people have for building satisfying social connections with other individuals (Deci, Vallerand, Pelletier, & Ryan, 1991). Sheldon and Elliot (1999) state that by pursuing self-concordant goals, individuals are able to better satisfy all three of these needs. For instance, because people perceive that self-concordant goals reflect their personal interests, these types of goals accentuate their need for autonomy. Self-concordant goals tend to initiate greater effort and subsequent goal attainment, thus they capitalize on individuals' needs to feel more effective and competent. Finally, researchers have determined that individuals who pursue self-concordant goals are more likely to engage in meaningful social activities such as helping others, and consequently satisfy relatedness needs in the process (Sheldon & Kasser, 1995). Given the benefits of self-concordant goals, it is important to understand how the self-concordance model can inform the goal-setting process.

The Nature of Self-Concordant Goals

In general, goal-setting theory is well established and it reliably predicts motivation, especially in a workplace domain. However, some uncertainties remain, such as how the role of assigned goals, self-set goals, or participative goals might be qualitatively different from each other (Locke & Latham, 2002). For example, although some researchers have suggested that participation in the goal-setting process leads to greater performance (Erez & Arad, 1986; Erez & Earley, 1987), others have concluded that there are no performance

differences between assigned and participative goal-setting (e.g., Latham, Steele, & Saari, 1982; Latham, Winters, & Locke, 1994; Latham & Yukl, 1976). In some contexts, assigned goals have led to greater performance (Chang & Lorenzi, 1983). Because uncertainties about the differences between assigned and self-set goals remain, it is important to explore whether the self-concordance model will still apply with assigned goals. Sheldon and Elliot (1999) state that the self-concordance model does not address the origins of or the selection of a self-concordant goal, but instead it describes how this goal presumably influences behavior while someone is pursuing it. Therefore, people may perceive a self-concordant goal as autonomously motivated, regardless of its origin (i.e., self-set, participatively set with others, or assigned by others).

The notion that people could perceive assigned goals as self-concordant may seem surprising and contradictory to the self-concordance model because we would expect that a self-selected goal would be more autonomously motivating and thus lead to greater self-concordance than an assigned goal. However, because people's decisions are flawed, self-set personal goals might not necessarily be self-concordant goals (Sheldon & Elliot, 1998). Furthermore, Ryan and Connell (1989) emphasize that although intrinsically motivated behaviors are those that occur without any external influence, this does not mean that all extrinsically incentivized behaviors (behaviors that occur in the presence of external forces) necessarily give rise to external PLOC. The process of internalization can explain this phenomenon. Largely due to the need for relatedness, internalization is a process through which individuals are motivated to transform their perceptions of regulation or values (despite their lack of intrinsic appeal) from external into internal (Deci & Ryan, 1990). This

suggests that people are able to transform their perceptions such that an assigned goal may feel or appear to them to be consistent with their personal interests. In other words, with appropriate methods of goal presentation, people will essentially create a personal goal from an assigned goal, thus effectively making it their own (e.g., Gibbons & Weingart, 2001; Locke & Latham, 2002; Meyer & Gellatly, 1988).

Given the previous research on internalization, we would expect to observe the same process of translating assigned goals into personal goals in the current research after a carefully phrased goal-assignment. However, it is still important to determine the extent to which individuals internalize their goals. For instance, consider an individual who internalizes a highly externally regulated goal so that it becomes a slightly less externally regulated goal (e.g., introjected goal). Although internalization took place, it still remains a goal that is not self-concordant because the goal pursuit did not internalize to the extent of being identified or intrinsically regulated. Consequently, this type of goal will lead to lower levels of effort and attainment than would a fully internalized goal. Therefore, because assigned goals play a critical role in organizations, determining how to assign a goal so that it leads to internalization and self-concordance is an important line of inquiry.

Assigning Goals in Need Supportive Contexts

Research has shown that people are more encouraged to pursue a behavior intrinsically in situations where their three basic psychological needs (i.e., competence, autonomy, relatedness) are stimulated (e.g., Deci, et al., 1991; Grolnick & Ryan, 1989; Ryan, 1995; Ryan, Stiller, & Lynch, 1994). In other words, when individuals are in contexts that support their psychological needs, they may be more likely to internalize an externally

incentivized goal into a more internally motivated goal. Researchers have used varying techniques to foster this internalization. For instance, Sheldon and Filak, (2008) used phrasing that attempted to directly manipulate need-support based on the conceptual definitions of each need (e.g., “just do the best you can, and you’ll improve quickly. I have confidence in you!”). On the other hand, Deci, Eghrari, Patrick, and Leone (1994) explored these supportive contexts and concluded that three factors stimulate psychological needs and thus promote internalization. First, task instructors should provide a meaningful rationale to help task participants resonate with the importance of engaging in the task. Second, task instructors should acknowledge the lack of intrinsic motivation that participants might feel towards a task in order to reduce the tension that participants may feel from external pressures to perform. Finally, task instructors should convey a sense of choice in the task assignment, such that participants feel less external pressure, and instead feel that they have a choice in how they approach the task. Although these researchers did not assign a goal to their task participants, it would be not be difficult to translate these three facilitating factors into a goal-setting context.

Consider these three factors in a workplace example. A sales organization wishes to obtain a new business from a client in a remote area who has been unpleasant to work with in the past. Therefore, a manager plans to assign the task of obtaining this new client to a qualified salesperson. First, the manager explains that acquiring this new business will help the sales organization to flourish and expand its business to more desirable and local sales areas. This should allow the salesperson to recognize that obtaining this new business could lead to more local business, resulting in benefits to the salesperson such as more sales and

less travel. Next, the manager empathizes with the salesperson by acknowledging the fact that it is a difficult client to work with and it may not be an enjoyable task. This acknowledgement should allow the salesperson to recognize that it is not wrong to feel a lack of intrinsic motivation toward the goal, and that these feelings are not wrong or inconsistent with engaging in the task. Finally, the manager conveys a sense of choice to the salesperson by asking the salesperson to pursue the goal, and allowing the salesperson the opportunity to decide how to approach the task, or the opportunity to refuse the task altogether. This should allow the salesperson to feel a sense of control over the situation, thus reducing external pressures to pursue an innately external goal assignment. In total, the manager's goal communication should result in a need-supportive context in which the salesperson should be more likely to internalize the assigned goal.

Because there is little research on how these contexts function with actual goals, Milyavskaya, Nadolny, & Koestner, (2014) demonstrated how exposing people to need-supportive contexts influenced them to interpret their goals as self-concordant. However, like other self-concordance research, Milyavskaya and colleagues used self-set goals in their research. Therefore, expanding upon this previous research, the present study uses a combination of the aforementioned phrasing techniques to assign goals in a need-supportive manner with the intention of examining how these contexts might affect the way in which the assigned goals function within the self-concordant model.

Self-Concordance and Goal Attainment as Mediators

Overall, when goal-assigners assign goals in a need-supportive manner, goal-pursuers should naturally experience a greater sense of need satisfaction while pursuing the goal than

they would if they were assigned a goal in a context that is not need-supportive, or in a context that is need threatening (e.g., contexts that threaten one's autonomy by taking away one's sense of choice). However, previous research shows that when goal-assigners assign goals in a need-supportive manner, goal-pursuers are more likely to pursue the goal for self-concordant reasons (Milyavskaya et al., 2014). Therefore, the goal assignment to need satisfaction relation may be more complicated than a direct effect. In other words, the extent to which goal-pursuers internalize the goal, or perceive it to be self-concordant, may further explain, or mediate, how these goal assignments affect the need satisfaction that goal-pursuers experience from pursuing the goal.

Despite the fact that most of the research involving self-concordance and need satisfaction has only examined this relation through the mediation of goal attainment, the attainment of a self-concordant goal may not be a requirement in order for goal-pursuers to experience increased levels of need satisfaction (Greguras & Diefendorff, 2010). In other words, although goal-pursuers may experience more need-satisfaction from a self-concordant goal that they attained than they would from a self-concordant goal they did not attain, Greguras and Diefendorff suggested that simply the pursuit of a self-concordant goal may be enough to augment the need-satisfying experiences that goal-pursuers experience, regardless of whether that goal is ever attained. Therefore, I hypothesize:

Hypothesis 1: The positive relation between the need-supportiveness of the goal assignment and the need satisfaction associated with a goal task will be mediated by goal self-concordance.

In addition to boosting the self-concordance of goals, the need-supportiveness of a goal assignment can also directly improve goal performance. For instance, Vansteenkiste, Simons, Lens, Soenens, and Matos (2005) found that when the researchers assigned goals in a way that supported the participants' need for autonomy (e.g., "we invite you to," or "you can decide for yourself to") rather than in a way that was controlling or demanding (e.g., "you are expected to," or "you should"), participants performed better. Along the same line of thought that self-concordant goals are likely to result in a more need-satisfying experience for the goal-pursuer despite the outcome of the goal, Smith, Ntoumanis, and Duda (2007) concluded that goal attainment is predictive of increases in participants' need satisfaction, despite whether participants perceived the goal as self-concordant. This suggests that even if goal-assigners assign a goal in a need-supportive manner, and it does not result in increased levels of goal-pursuers' perceived self-concordance of the goal, but it does result in higher levels of goal attainment, goal-pursuers may still experience elevated need-satisfaction due to the attainment of their goal pursuit. Thus, I hypothesize:

Hypothesis 2: The positive relation between the need-supportiveness of the goal assignment and the need satisfaction associated with a goal task will be mediated by goal attainment.

Despite the hypothesized significance of the aforementioned indirect effects, in order to account for the most variance, the current study forms a serial multiple-mediator model that encapsulates each variable of interest into a single model. Serial mediation models test multiple mediators together in a causal sequence, such that the first mediator influences the second mediator (Hayes, 2013). Therefore, in combining the two aforementioned mediation

variables into a single model, I hypothesize that the need-supportiveness of the goal assignment will affect the extent to which goal pursuers pursue the goal for self-concordant reasons. These reasons in turn, will affect the attainment of the goal, and finally, this attainment will affect the level of need-satisfaction that goal-pursuers experience from the task.

Hypothesis 3: The positive relation between the need-supportiveness of the goal assignment and the need satisfaction associated with a goal task will be sequentially mediated by self-concordance and goal attainment, respectively.

Thus far, I have maintained that the way goal-assigners assign a goal will affect the extent to which goal-pursuers will perceive it to be self-concordant and that this, in turn, will influence the attainment of the goal and the extent to which goal-pursuers find their accomplishments need satisfying. In addition to these relations, the present study also investigated a potential moderating trait that may affect the extent to which people internalize assigned goals.

Core Self-Evaluations as a Moderator of Self-Concordance

Core Self-Evaluation (CSE) is a disposition that encompasses the basic assessments that people make about their self-worth, effectiveness, and capabilities. It is a latent trait comprised of indices of four specific personality traits: self-esteem, generalized self-efficacy, neuroticism, and locus of control (Judge et al., 2003), and research has linked it to a number of outcomes such as satisfaction, work commitment, motivation, and performance (Chang, Ferris, Johnson, Rosen, & Tan, 2012).

Research has linked individuals' levels of CSE to the self-concordance of their goal pursuits. For instance, Judge et al. (2005) concluded that individuals with high levels of CSE were more likely to select self-concordant goals. These researchers explained that because these goal-pursuers had more favorable views of themselves (i.e., judged themselves positively and as competent) than goal pursuers who did not express high levels of CSE, they would be less likely to succumb to external influences and pressures. However, an alternative explanation is that these goal-pursuers with high levels of CSE are simply more likely to internalize most goals as being self-concordant than goal-pursuers who do not have high levels of CSE, regardless of whether they select the goals themselves.

Research has not directly assessed this alternative explanation that the latent CSE trait affects goal-pursuers' ability to internalize goals to be self-concordant. However, research has suggested that some of CSE's individual indicator traits (i.e., locus of control and neuroticism) affect one's ability to internalize or to recognize need support. For instance, Ryan and Connell (1989) concluded that individuals are more likely to internalize behavioral regulations when they have an internal locus of control. Additionally, Powers et al. (2015) found that even when neurotic individuals received high levels of autonomy support, they often failed to recognize it, or they perceived that they received much less support than they actually did. Consequently, they did not make good progress toward their goals.

Although this hypothesis is exploratory in nature, the aforementioned research provides evidence that goal-pursuers who are high in CSE may be more likely to internalize goals, and thus pursue them for self-concordant reasons (Ryan & Connell, 1989). Furthermore, it suggests that goal-pursuers who are high in CSE may be more likely to

benefit from, or recognize need support that goal-assigners provide when assigning goals (Powers et al., 2015). Therefore, I hypothesize the following:

Hypothesis 4: CSE will moderate the positive relation between the need-supportiveness of the goal assignment and self-concordance, such that the relation between the need-supportiveness of the goal assignment and self-concordance will be stronger when CSE is high.

Integrating CSE into the entire serial mediation model, I hypothesize that CSE will moderate the indirect relation between the need-supportiveness of the goal assignment and the need satisfaction experienced from the assigned task (see Figure 1):

Hypothesis 5: The indirect effect between the need-supportiveness of the goal assignment and the need satisfaction associated with the task will be moderated by CSE, such that the sequentially mediated relation between need-supportive goal assignment and the need satisfaction associated with the task will be stronger for those who are higher in CSE.

Method

Participants

The sample for the present study consisted of 381 undergraduate students at a large university in the southeastern United States. This sample size is consistent with that in previous research using analytic models similar to the one used in the present study (e.g., van Jaarsveld, Walker, & Skarlicki, 2010; Wheeler, Smeesters, & Kay, 2011).

Procedure

Participants completed a survey at a single time through Qualtrics, an online survey software site. They began the survey by completing the individual difference measures. Next, they read an initial prompt that informed them that the university had identified several campus transportation-related issues that required attention. The prompt explained that participants would be contributing to a task that involved producing novel, yet realistic ideas to help solve one of these problems. The idea-generation task was fitting for this line of research because goal-setting researchers have successfully used it in the past to assess goal acceptance and task performance (e.g., Locke, 1982; Locke, Chah, Harrison, & Lustgarten, 1989; Locke, Frederick, Buckner & Bobko, 1984).

After the initial prompt, random assignment to one of the three study conditions occurred. The study then presented participants with a “task instructions” prompt that varied by condition (explained in more detail in the following section). Finally, because the idea-generation activity had a 10-minute time limit the prompt specifically asked participants for their undivided attention before beginning the task. When participants were ready to begin, the task itself and the start of the 10-minute time limit began and the study presented participants with the “goal assignment.” Like the task instructions prompt, I also manipulated the phrasing of the goal assignment. Therefore, participants experienced two manipulation points within each condition (i.e., need-supportive task instructions and need-supportive goal assignment). The goal assignment informed participants of the exact nature of the transportation problem, and what their goal assignment was (i.e., number of ideas to generate). After completing the idea-generation task, participants replied to reaction

measures that corresponded to the task. Finally, participants read a debriefing paragraph that explained the true purpose of the study.

Experimental Design and Task

The assigned goal for all participants was to generate at least 15 distinct and creative, but workable solutions to “the parking problem on campus” within a 10-minute period. I chose this goal of 15 ideas based on a pilot study. Although the goal was only to generate 15 ideas, the survey provided space for 25 ideas in the event that participants might generate more than 15 ideas.

The task pertained to a parking problem on campus because it is an issue with which most all students should have been personally familiar, thus making it an appropriate task for them (Gordon, Slade, & Schmitt, 1986). Additionally, “the parking problem” was intentionally vague to allow participants to interpret it in their own way to encourage creative and unrestricted idea generation. Prior research has successfully used this same “parking problem” in idea-generation tasks (e.g., Connolly, Jessup, & Valacich, 1990; Satzinger, Garfield, & Nagasundaram, 1999).

Although this study instructed all participants to achieve the same numeric goal of 15 ideas, I manipulated the need-supportiveness of the goal communications (“task instructions” and “goal assignment”) by using methods from previous research (e.g., Deci et al., 1994; Sheldon & Filak, 2008; Vansteenkiste et al., 2005). This resulted in three experimental conditions: a need supportive goal-assignment condition, a need threatening goal-assignment condition, and a neutral control condition. Figure 2 contains a full description of the task instructions and goal assignments that defined the three conditions.

Need-supportive condition. In the need-supportive condition, I manipulated the instructions and goal assignment prompts to support competence, autonomy, and relatedness needs by providing a meaningful rationale for the task, by acknowledging the participants' possible negative perspectives of the task, and by conveying a sense of choice about how participants might approach the task (Deci et al., 2004). The prompts also used phrasing consistent with the conceptual definitions of these needs to directly support those (Sheldon & Filak, 2008). For example, the following statements provided a meaningful rationale to participants for why they should help with the task and provided support for participants' competence and feelings of relatedness to others:

"...research shows that it (the issue) is a relevant problem for many, and can directly negatively impact all of us at this university, including students like you."

"...but because many of these issues affect students, we think that you can provide an expert opinion regarding how to solve these types of problems; therefore, we need your help."

The following statements acknowledged the participants' possible negative perspectives of the task:

"The following issue may or may not be of interest to you or directly affect you..."

"We understand this task may not be very fun..."

I intended for these statements to legitimize the negative feelings that participants possibly might have had about the task, for instance, that the task might not be interesting. In so doing, I attempted to reduce the tension between participants' experienced feelings and their future actions so that they might accept any negative feelings they had toward the task, while still completing it, thus supporting their need for autonomy (Deci et al., 1994).

Additionally, acknowledging and expressing care about their individual feelings should have helped to create a sense of relatedness between researcher and participant (Sheldon & Filak, 2008).

Finally, with these prompts I attempted to create a sense of choice or autonomy by using keywords and phrases such as, “may or may not,” “we invite you to,” “you might want to,” “you may,” and “we ask,” throughout various points in the passages. These phrases allowed participants to choose the way they approached the task (Deci et al., 1994; Sheldon & Filak, 2008; Vansteenkiste et al., 2005).

Need-threatening condition. In the need-threatening goal assignment condition, the instruction and goal assignment prompts attempted to threaten the participants’ needs for competence, autonomy, and relatedness. Instead of providing a meaningful rationale, the prompts merely told participants that they should view the task as important and that they should complete it because the university simply wanted them to do so. Furthermore, these prompts devalued the participants’ input and directly threatened their competence by pointing out that the students likely did not have the expertise to help with the parking problem. To illustrate, here are some phrases I included in the instructions:

“The university views this (issue) as a very important problem, thus all students should also view it as an important issue to solve.”

“...students are not typically equipped with the expertise or knowledge needed for deciding how to solve many of these problems.”

Finally, I intended these instructions to diminish the participants’ sense of autonomy by using various keywords or phrases throughout the entire passage such as, “you should,” “you must,” and “you need to,” instead of phrases like, “we ask” (Vansteenkiste et al., 2005).

I also used phrasing in the prompts to threaten the participant's sense of relatedness. For example:

“Know that we are only interested in hearing ideas to solve this problem, not your personal concerns.”

Neutral (control) condition. Lastly, in the control condition I used neutral language in the prompts as opposed to need-supportive or need-threatening phrasing. For example, instead of using imperatives such as “you must” to threaten autonomy, or appeals such as “we ask that” to support autonomy, in the neutral condition I used neutral statements such as “please click below to begin the task.” Essentially, these prompts simply restated prior task descriptions from the initial prompt in order to keep word-length consistent across conditions.

Measures

Core self-evaluation. To measure CSE, I used the 12-item Core Self-Evaluation Scale (CSES; Judge et al., 2003), modified to be appropriate for a student sample. Participants rated the extent to which they agreed with the 12 statements on a scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Positive and Negative Affect. Meta-analytic research has shown that mood can affect creative performance on timed tasks that involve idea generation (Davis, 2009). Therefore, to control for these potential mood effects, I measured mood using the shortened State version of the PANAS (Mackinnon et al., 1999). This measure consisted of adjectives for positive and negative emotions, split evenly across ten items. The measure

asked participants to indicate the extent to which they felt each emotion at that present moment on a scale ranging from 1 (very slightly or not at all) to 5 (very much).

Self-concordance. I measured goal self-concordance using the same method as Sheldon and Elliot (1998). Using a scale ranging from 1 (not at all for this reason) to 9 (completely for this reason), I asked participants to rate the extent to which they pursued the assigned goal for each of the following four reasons: external, introjected, identified, and intrinsic. For example, “because the situation demanded it, or somebody else wanted me to.” I calculated a controlledness (non self-concordant) variable by averaging the standardized external and introjected ratings, and I calculated an autonomous (self-concordant) variable by averaging the standardized intrinsic and identified ratings. To create a single self-concordant composite variable, I subtracted the controlledness value from the autonomous value.

Goal attainment. I measured goal attainment by directly observing of the number of unique ideas produced in the idea generation task. Two, independent raters eliminated redundant and irrelevant answers. I then only counted ideas with 100% interrater agreement toward each participant’s total score. The final goal attainment score was calculated as a percentage of legitimate ideas generated out of the assigned goal of 15 ideas.

Need satisfaction. Participants rated the extent to which they felt their psychological needs were satisfied from the idea-generation task on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale itself consisted of nine items (i.e., three for each psychological need) that stemmed from previous research (Philippe, Koestner, Beaulieu-Pelletier, & Lecourse, 2011; Sheldon & Filak, 2008; Sheldon & Hilpert, 2012). Following recommendations from Sheldon and Hilpert (2012), rather than combining each of the three

psychological needs into a single need satisfaction composite score, I scored each psychological need separately in order to detect any potential differences in effects on each of the three needs.

Impressions. I measured participants' impressions of the task instruction and goal assignment prompts with an 8-item measure. Ranging from 1 (disagree) to 3 (agree), the measure asked participants to rate the extent to which the prompts were, for example, "friendly," "rude," and "polite." Because the need satisfaction measure is concerned with the need satisfaction that participants experienced during the idea-generation task, it was important to include a measure that could serve as an initial manipulation check for the three conditions. Although these impressions are not synonymous with need satisfaction, their purpose was to provide an initial indication that participants interpreted the goal assignment prompts differently by condition.

Demographic and Control Items. In addition to demographic items such as age, gender, and year in school, the survey asked participants to rate the extent to which the parking problem was relevant to their lives. Finally, one final item asked participants to rate the extent to which they agreed with the following statement "I was distracted during the idea-generation task" on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). I included this item because it was likely that participants' attentiveness would affect their performance on the timed idea-generation task. Therefore, this item's purpose was to control for the effect that being distracted during the task might have on participants' performance.

Results

Testing the Fit of the Measurement Model

First, I conducted a confirmatory factor analysis (CFA) to test the measurement model. Because it is difficult to attain satisfactory model fit when there are a large number of indicator items (Floyd & Widaman, 1995), I created item parcels to reduce the number of parameters to estimate. Following the lead of previous research, I parceled the need satisfaction subscales (i.e., competence, relatedness, and autonomy) into individual parcels, resulting in three indicators of the need satisfaction latent variable, and I created autonomous and controlled parcels (as described in the measures section) to indicate the self-concordant latent factor (Deci et al., 2001; Greguras & Diefendorff, 2010). For the CSE measure I created four randomly assigned parcels for each latent indicator. The CFA yielded a significant chi-square value $\chi^2(24, N = 381) = 38.56, p < .05$; however, other fit indices suggested good model fit (CFI = .98, TLI = .98, RMSEA = .04 [.01, .06], $p > .05$). To ensure that the three latent variables were distinct from one another, I created a comparison model in which all indicators loaded on to a single latent factor. This model yielded poor model fit $\chi^2(27, N = 381) = 158.46, p < .05$, CFI = .86, TLI = .81, RMSEA = .11 [.1, .13], $p < .05$, and it fit the data significantly worse than the three-factor model $\Delta\chi^2(3, N = 381) = 119.90, p < .05$. Therefore, I concluded that the measurement model had acceptable fit to the data, and the measures that indicated the latent constructs were all distinct from one another.

Next, I assessed how participants' impressions of the task instructions and goal assignment differed across conditions as an initial manipulation check. To do so, I conducted an analysis of variance (ANOVA). First, I checked the assumptions of ANOVA. Although researchers have recently demonstrated through Monte Carlo simulations that ANOVA is robust to violations of the normality assumption (Schmider, Ziegler, Danay, Beyer, &

Buhner, 2010), I must still note that participants' impression data were non-normally distributed with skewness of -1.47 ($SE = .13$) and kurtosis of 2.25 ($SE = .25$). Additionally, Levene's test for homogeneity of variance was significant $F(2,378) = 9.77, p < .05$, thus it did not meet the assumption that variances were equal across groups. Therefore, I conducted a Welch test and found that impressions were not the same across conditions $F(2, 248.58) = 12.31, p < .05$. The Games-Howell post hoc test showed that participants' mean impression ratings differed in small, but significant amounts across conditions in the way that we would expect (Table 1). In other words, participants viewed the need-supportive condition as friendlier or more polite, than all other conditions, and they viewed the need-threatening condition as ruder, or as more impolite than all other conditions. These differences provide initial evidence that the manipulations did have some effect on participants' perceptions.

Recoding the Multicategorical Independent Variable

Because the independent variable (need-supportiveness) consisted of three categorical levels (i.e., need-supportive, neutral, and need-threatening), there were multiple coefficients that represented the independent variable's effects on the mediating and dependent variables, thus I could not calculate the effect of the independent variable without recoding the variables (see Hayes & Preacher, 2014). Therefore, following methods from Hayes & Preacher (2014), I used a dummy coding procedure to create two contrast groups, a "Need-supportive vs. Control" (NS) and a "Need-threatening vs. Control" (NT) group. To do so, I coded participants who were in the need-supportive condition as a "1" on the need-supportive condition variable and as a "0" on the need-threatening and control condition variables. Then I coded participants who were in the need-threatening condition as a "1" on

the need-threatening condition variable and as a “0” on the need-supportive and control condition variables. Finally, in order to make the control group serve as the reference or comparison group, I coded all participants who were in the control group as a “0” on all three condition variables. Because there were two contrast groups, I had to conduct each of the subsequent mediation models twice; once for the NS contrast as the independent variable and once for the NT contrast as the independent variable. However, in both models, the opposite contrast remained in the model as a covariate (Hayes & Preacher, 2014). In other words, in the NS contrast model, the NT contrast was a covariate. For the sake of interpretation, significant associations between either contrast group and a dependent variable were interpreted in relation to the reference group (control condition). For instance, hypothetically speaking, a significant positive relation between NS and self-concordance would mean that participants in the need-supportive condition pursued the assigned goal for significantly more self-concordant reasons than the participants in the control condition did.

Self-Concordance and Goal Attainment as Mediators

Table 2 contains the descriptive statistics and correlation coefficients for all study variables, with coefficient alpha estimates reported on the diagonal. Reliability analyses indicated that the coefficient alpha estimates of the need-satisfaction subscales (i.e., competence, autonomy, and relatedness) would all increase as a result of dropping a single item from each subscale. In other words, on each subscale there was one particular item that was reducing the coefficient alpha estimate. Therefore, I trimmed the respective item from each subscale, resulting in three 2-item measures of need-satisfaction, which yielded the coefficient alpha estimates seen in Table 2. Positive and negative affect were associated with

several outcome variables, and the moderating CSE variable. Furthermore, participants who reported being undistracted during the task and who viewed the parking problem as relevant to their lives tended to report higher levels of need satisfaction and self-concordance. Participants who reported being distracted tended to perform worse and report lower levels of CSE. Given these associations, I included, distractedness, relevance, and positive and negative affect variables as controls in all subsequent analyses.

To test the hypothesized paths, I used the SPSS macro, PROCESS (Hayes, 2012). PROCESS uses a path analysis framework to estimate the direct, indirect, and conditional indirect effects of a model with one or more mediators through ordinary least squares (OLS) regression. Although some may argue that structural equation modeling (SEM) is the most appropriate method of analysis for anything more complex than a simple mediation model, others suggest that it is not required, nor is it necessarily more advantageous than OLS regression. For instance, Hayes (2013) demonstrated that the results of the PROCESS macro were nearly identical to those of two popular SEM programs. Although in general SEM provides some analytic advantages such as the ability to restrict the estimation of particular direct effects (Hayes, 2013), those restrictions are not necessary for the present model. Finally, because SEM is more sensitive to sample size and deviations from a normal distribution than OLS regression is (Gefen, Straub, & Boudreau, 2000; Hayes, 2013), the PROCESS method was the most appropriate choice for the present study.

For each hypothesis, I constructed one model for each of three basic psychological needs (i.e., competence, autonomy, relatedness) so that I could examine any differences amongst the effects on the needs. In combination with these three models and the two

models needed for the two contrast groups (i.e., NS and NT), each mediation hypothesis (Hypotheses 1-3) consisted of six models. Therefore, to correct for the possibility of Type II error that might result from multiple tests associated with these models, I used a Bonferroni correction ($\alpha = .05/6 = .008$).

Hypotheses 1 and 2 were the single mediator models in which I predicted that self-concordance (H1) and goal attainment (H2) would each independently mediate the relation between the need-supportiveness of the goal assignment and need-satisfaction experienced from the goal task. Table 3 displays the regression coefficients and indirect effects associated with Hypothesis 1. Table 4 displays the regression coefficients and indirect effects associated with Hypothesis 2. The Bonferroni corrected bootstrapped confidence intervals indicate the significance of the indirect effects. As seen in the tables, the goal assignment manipulations did not predict self-concordance or goal attainment to a significantly different extent from one another. Thus, the indirect effect between the need-supportiveness of the goal assignment and the experienced goal task through self-concordance or goal attainment was insignificant. Furthermore, because of these insignificant findings, I was unable to continue on to test the serial mediation model hypothesized in Hypothesis 3.

CSE as a Moderator

Hypothesis 4 stated that CSE would moderate the relation between the need-supportiveness of the goal assignment and self-concordance, such that individuals who were high in CSE would show a stronger positive relation between the need-supportiveness of the goal assignment and self-concordance than those who were low in CSE. For the sake of interpretation, I mean-centered all continuous predictor variables before conducting the

analysis (Aiken & West, 1991). Again, to test the hypothesis I used the PROCESS macro, and one model for each need-supportiveness contrast. In both the NS contrast model ($B = .64, SE = .43, p > .05$), and the NT contrast model ($B = -.58, SE = .42, p > .05$), the interaction terms were insignificant. Thus, Hypothesis 4 was not supported. Because this moderation was insignificant, I was unable to test the moderated serial mediation hypothesized in Hypothesis 5.

Post Hoc Analyses

Although the results showed that manipulating the phrasing of the assigned goal did not affect the extent to which participants perceived the goal as self-concordant or attained the goal, self-concordance and goal-attainment both significantly predicted some facets of need-satisfaction. Previous self-concordant research with self-selected or participative goals has suggested that self-concordance predicts goal-attainment, and goal-attainment, in turn, predicts need satisfaction (e.g., Judge et al., 2005; Sheldon & Elliot, 1999). Therefore, in an attempt to test whether the self-concordance of an assigned goal functions similarly to that of a self-selected or participative goal, I analyzed three additional mediation models in which goal attainment mediated the relation between the self-concordance of the assigned goal and each of the three psychological needs. I continued to control for relevance, distractedness, and positive and negative affect. Furthermore, to correct for the multiple tests I used a Bonferroni adjusted significance level ($\alpha = .05/3 = .016$). Table 5 displays the regression coefficients and indirect effects for each model. Despite having a significant direct effect on competence and autonomy, self-concordance did not significantly predict goal attainment

and thus, goal attainment did not mediate the relation between the self-concordance of the assigned goal and need satisfaction.

Discussion

The present study attempted to support participants' basic psychological needs (i.e., competence, autonomy, and relatedness) by communicating a goal assignment in a need-supportive manner, using strategies from previous research (e.g., Deci et al., 1994; Sheldon & Filak, 2008; Vansteenkiste et al., 2005). I expected the need supportiveness of the goal assignment to affect positively the participants' perceived self-concordance of the goal, and the extent to which they would attain the goal. Furthermore, I expected higher levels of self-concordance and goal attainment to result in higher levels of need satisfaction that participants experienced from engaging in the assigned task. Finally, I anticipated that participants with higher levels of core self-evaluations (CSE) would be more likely to recognize the need-supportiveness in the need-supportive goal assignment condition. Therefore, I expected that individuals who received such need-supportive goal assignments would be especially likely to internalize the goal and perceive it as self-concordant when they also reported high as opposed to low levels of CSE.

Initial manipulation-check results regarding participants' impressions of the need-supportiveness conditions indicated that participants had significantly different impressions of the goal-assignment conditions. Participants in the need-supportive condition had more favorable impressions of the goal instructions and assignment than participants in the control and need-threatening condition. As expected, participants in the need-threatening group reported having the least favorable impressions toward the goal instructions and assignment.

These results provided initial evidence that participants did perceive the three goal-assignment conditions differently in the direction that was expected.

Interestingly, however, results showed that neither the participants' perceived self-concordance, nor their goal attainment, differed by the type of support they received. In other words, despite finding in the manipulation check that participants recognized a difference among the varying degrees of need-supportive phrasing, participants who were in different conditions still did not differ in their levels of self-concordance or their attainment of the assigned goal. Therefore, no mediation occurred between the need-supportiveness of the goal assignment and the need-satisfaction relation. Apparently, regardless of how goal-assigners assign a goal, goal-pursuers self-concordance of that goal, and their attainment of that goal will not differ.

However, it is important to note that although the need-supportiveness conditions did not have an effect on expected outcomes and self-concordance was not significantly associated with goal attainment, self-concordance and goal attainment were both associated with some facets of need-satisfaction. Participants who had higher goal self-concordance or a higher goal completion percentage were more likely to feel a sense of competence than those with a lower goal self-concordance or goal completion percentage. The strong association between participants' goal attainment and their feelings of competence provides support for the notion that even the attainment of goals that are not self-concordant can be associated with more need-satisfying experiences. However, only participants' level of self-concordance was positively associated with their feelings of autonomy. Therefore, this lack of support for the relation between participants' goal attainment and feelings autonomy may

suggest that goals may need to be self-concordant in order for participants to experience complete need-satisfaction. Although neither self-concordance nor goal attainment predicted participants' sense of relatedness, this result may have been due to limitations of the study design, thus I will discuss this further in the limitations section.

In addition to the mediation analyses, I also conducted a moderation analysis. From this analysis I anticipated that participants with higher levels of core self-evaluations (CSE) would be more likely to recognize the need-supportive goal assignment, and thus would be more likely to internalize the goal to the extent of being self-concordant than participants who reported having lower levels of CSE. The moderation results showed that participants' levels of CSE did not significantly affect the relation between the goal assignment and the perceived self-concordance of the assigned goal. In other words, participants who reported being high in CSE did not perceive the goal assignments as more need-supportive than participants who reported being low in CSE, and thus, participants with high CSE were no more likely to perceive the assigned goal as self-concordant than participants with low CSE.

Finally, I conducted a post hoc analysis in an attempt to replicate previous self-concordance models, but with an assigned, as opposed to a self-selected or participatively set goal. In other words, I removed the need-supportiveness variable from the model and assessed how participants' levels of self-concordance toward the assigned goal affected their goal attainment, and how their level of goal attainment affected the need-satisfaction they experienced from pursuing the assigned goal. Results showed that participants who pursued the assigned goal for more self-concordant reasons were no more likely to attain the goal than individuals who pursued the goal for less self-concordant reasons. Although these

results were surprising, this was not the first study to find a weak or insignificant relation between individuals' self-concordant goal pursuits and their goal attainment (see Greguras & Diefendorff, 2010; Judge et al., 2005, Study 1). Because the present study did not measure participants' exerted effort, this insignificant relation is difficult to explain. However, perhaps the relation between self-concordance and goal attainment is more complicated than increased exertion of effort due to the self-regulation of behavior. Future research should explore this relation in more depth. The limitations of the present study that I discuss in the next section may explain why this study did not support the findings of previous task framing research.

Limitations

There were several limitations to the present study. First, I will discuss limitations of the present findings. Next, I will discuss the limitations of the study's design, and I will provide suggestions for future research. Said differently, I will first discuss the factors that may limit the utility of the present results, and I will then elaborate on how future research could better approach the assessment of the research questions at hand.

Limitations of the study findings. In testing whether participants' impressions of the goal-assignments differed by condition, the present study violated the normality assumption of ANOVA. Research has found that skewed distributions do not significantly affect ANOVA results (Schmider et al., 2010). However, because the goal-assignment conditions did not significantly differ with regard to their effects on other dependent variables, this suggests the possibility that the non-normal distribution of the impressions data may have

affected the ANOVA results. Thus, researchers should interpret the results of the manipulation check with reservations.

Next, I must address the low coefficient alphas of some of the measures in the present study. First, the present study found that participants' goal self-concordance was positively associated with participants' feelings of competence and autonomy during the goal pursuit, and participants' goal attainment was positively associated with their feelings of competence. However, each of the need-satisfaction measures yielded coefficient alphas under .70. Furthermore, I reduced these measures to two items per measure in order to increase the coefficient alphas. Due to the size of the measures and their low coefficient alphas, researchers should make note of the fact that the results found in the present study may not be reliable.

In addition to the limitations of the present findings, there are certain aspects of the study design that, in hindsight, I would have changed. Researchers should make note of these design limitations for future research of these constructs.

Limitations of the study design. One of the most important limitations of the study's design is its cross-sectional nature. Previously, most self-concordance research has incorporated a longitudinal design and has assessed how people exert more effort into self-concordant goals over time, and how goal attainment may affect need satisfaction over time. Furthermore, Ryan and Deci (2000) state that, although internalization may occur at any time, individuals internalize behaviors more over time. Although previous self-concordance researchers have used cross-sectional methodologies, these studies did not use assigned goals (e.g., Hon, 2011; Smith et al., 2007). Therefore, participants were most likely already

pursuing their goals and thus they may have already developed self-concordant reasons for pursuing them. It is possible that in the present study, participants' self-concordance and goal attainment did not differ by condition because participants did not have enough time to internalize the assigned goal. This could also explain why CSE did not moderate the relation between goal assignment and self-concordance. In other words, regardless of how high participants were in CSE, they did not have enough time to internalize the assigned goal. Therefore, future research should use a longitudinal approach to reveal more information about the internalization and self-concordance of assigned goals. For example, researchers could allow a delay between the need-supportive goal assignment and the participants' actual participation in the goal task. This may allow participants time to internalize the goal to the extent that they are no longer pursuing the goal simply because the researchers recently asked them to do so. Additionally, by extending the time period for participants to attain the goal, participants would have more time for internalization and changes in need-satisfaction to occur, and researchers could take multiple measures of self-concordance and goal progress to develop a general guideline for how long the internalization of an assigned goal might take.

Another limiting factor may have been the self-concordance measure itself. In order to remain consistent with previous research, I used the same self-concordance measure and scoring procedures as previous research (e.g., Sheldon & Elliot, 1999). However, because this study involved assigned goals, a modified version of the measure and its scoring procedure may have been more appropriate. The root of the problem may lie in the fact that because participants were pursuing a goal that the experiment assigned to them, as opposed to their own self-selected goal, they felt somewhat obligated to provide a high rating for the

external reason for goal pursuit (“because somebody else wants you to or because the situation demands it”). In other words, even participants with primarily internal motives for pursuing the goal may still have felt the need to report high external reasons for pursuing the goal because the exact nature of an assigned goal is that it comes from an external source. The fact that external reasons for goal pursuit had the highest mean rating in the present study supports this notion. The use of assigned goals with this measure may also explain why the coefficient alpha of self-concordance was so low. Therefore, whether that is an artifact of the measure or just the nature of assigned goals remains to be seen. Future self-concordance research would benefit from a self-concordance measure specifically for assigned goals.

Another study limitation is the format in which participants completed the study. The results showed that individuals experienced higher levels of autonomy and competence when they had higher levels of goal self-concordance or goal attainment. However, self-concordance and goal attainment did not predict participants’ feelings of relatedness. One explanation for this is that participants were able to complete the entire study in a private setting. In other words, participants never directly interacted with the researcher, and they may not have completed the study around other people. Despite the fact that the task itself was community-based in nature, if participants did not personally interact with, or complete the survey around other individuals, they may not have fully assimilated the communal nature of the task. Participants did not experience any changes in their feelings of relatedness to others because they most likely did not have any personal interaction with others during the study. Perhaps if participants had completed the survey in a more social environment,

feelings of relatedness may have been more likely to differ across conditions. Researchers who wish to expand upon the exploratory research of the present study should consider including more interaction between participant and researcher or interaction amongst participants.

Of course, although the aforementioned explanations for the outcomes of the present study are all possible, one final explanation is that assigned goals are simply much less likely to be self-concordant. Because assigned goals naturally have an external influence, participants may have always felt a sense of external pressure, especially with such little time to internalize. Although some participants were able to internalize and pursue the assigned goal for self-concordant reasons, it would be interesting to compare the self-concordance of a self-set goal and an assigned goal on a similar task and within a similar amount of time. Researchers may wish to conduct this comparison study in the future.

Conclusion

The findings in the present study are discouraging for the manipulation and self-concordance of assigned goals. However, because this study was among the first of its kind and exploratory in nature, researchers may be able to build upon the present research and develop better ways to test the self-concordance of assigned goals. Furthermore, this study provides some initial evidence that when goal-pursuers are able to internalize assigned goals to be self-concordant; these goals may function similarly within the self-concordance model as previous research has demonstrated with self-set and participative goals.

REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Bandura, A., & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology, 45*, 1017-1028.
- Chang, C.-H., Ferris, D. L., Johnson, R. E., Rosen, C. C., & Tan, J. A. (2012). Core self-evaluations a review and evaluation of the literature. *Journal of Management, 38*, 81-128.
- Chang, G. S. Y., & Lorenzi, P. (1983). The effects of participative versus assigned goal setting on intrinsic motivation. *Journal of Management, 9*, 55-64.
- Connolly, T., Jessup, L. M., & Valacich, J. S. (1990). Effects of anonymity and evaluative tone on idea generation in computer-mediated groups. *Management Science, 36*, 689-703.
- Davis, M. A. (2009). Understanding the relationship between mood and creativity: A meta-analysis. *Organizational Behavior and Human Decision Processes, 108*, 25-38.
- DeCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.
- Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality, 62*, 119-142.

- Deci, E. L., & Ryan, R. M. (1990). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska Symposium on Motivation: Vol. 38. Perspectives on motivation* (pp. 237-288). Lincoln: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268.
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin, 27*, 930-942.
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist, 26*, 325-346.
- Erez, M., & Arad, R. (1986). Participative goal-setting: Social, motivational, and cognitive factors. *Journal of Applied Psychology, 71*, 591-597.
- Erez, M., & Earley, P. C. (1987). Comparative analysis of goal-setting strategies across cultures. *Journal of Applied Psychology, 72*, 658-665.
- Erez, M., & Zidon, I. (1984). Effect of goal acceptance on the relationship of goal difficulty to performance. *Journal of Applied Psychology, 69*, 69-78.
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment, 7*, 286-299.

- Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems, 4*, 1-79.
- Gibbons, D. E., & Weingart, L. R. (2001). Can I do it? Will I try? Personal efficacy, assigned goals, and performance norms as motivators of individual performance. *Journal of Applied Social Psychology, 31*, 624-648.
- Gordon, M. E., Slade, L. A., & Schmitt, N. (1986). The “science of the sophomore” revisited: From conjecture to empiricism. *Academy of Management Review, 11*, 191-207.
- Greguras, G. J., & Diefendorff, J. M. (2010). Why does proactive personality predict employee life satisfaction and work behaviors? A field investigation of the mediating role of the self-concordance model. *Personnel Psychology, 63*, 539-560.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*, 143-154.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable moderation, mediation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>.
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach .New York, NY: The Guilford Press.
- Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology, 67*, 451-470.

- Hon, A. H. (2011). Enhancing employee creativity in the Chinese context: The mediating role of employee self-concordance. *International Journal of Hospitality Management*, *30*, 375-384.
- Judge, T. A., Bono, J. E., Erez, A., & Locke, E. A. (2005). Core self-evaluations and job and life satisfaction: the role of self-concordance and goal attainment. *Journal of Applied Psychology*, *90*, 257-268.
- Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2003). The core self-evaluations scale: Development of a measure. *Personnel psychology*, *56*, 303-331.
- Koestner, R., Lekes, N., Powers, T. A., & Chicoine, E. (2002). Attaining personal goals: self-concordance plus implementation intentions equals success. *Journal of Personality and Social Psychology*, *83*, 231-244.
- Latham, G. P., Steele, T. P., & Saari, L. M. (1982). The effects of participation and goal difficulty on performance. *Personnel Psychology*, *35*, 677-686.
- Latham, G. P., Winters, D. C., & Locke, E. A. (1994). Cognitive and motivational effects of participation: A mediator study. *Journal of Organizational Behavior*, *15*, 49-63.
- Latham, G. P., & Yukl, G. A. (1976). Effects of assigned and participative goal setting on performance and job satisfaction. *Journal of Applied Psychology*, *61*, 166-171.
- Locke, E. A. (1982). Relation of goal level to performance with a short work period and multiple goal levels. *Journal of Applied Psychology*, *67*, 512-514.
- Locke, E. A., Chah, D. O., Harrison, S., & Lustgarten, N. (1989). Separating the effects of goal specificity from goal level. *Organizational Behavior and Human Decision Processes*, *43*, 270-287.

- Locke, E. A., Frederick, E., Buckner, E., & Bobko, P. (1984). Effect of previously assigned goals on self-set goals and performance. *Journal of Applied Psychology, 69*, 694-699.
- Locke, E. A., & Latham, G. P. (1990). Work motivation and satisfaction: Light at the end of the tunnel. *Psychological Science, 1*, 240-246.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist, 57*, 705-717.
- Mackinnon, A., Jorm, A. F., Christensen, H., Korten, A. E., Jacomb, P. A., & Rodgers, B. (1999). A short form of the Positive and Negative Affect Schedule: Evaluation of factorial validity and invariance across demographic variables in a community sample. *Personality and Individual Differences, 27*, 405-416.
- Meyer, J. P., & Gellatly, I. R. (1988). Perceived performance norm as a mediator in the effect of assigned goal on personal goal and task performance. *Journal of Applied Psychology, 73*, 410-420.
- Milyavskaya, M., Nadolny, D., & Koestner, R. (2014). Where do self-concordant goals come from? The role of domain-specific psychological need satisfaction. *Personality and Social Psychology Bulletin, 40*, 700-711.
- Philippe, F. L., Koestner, R., Beaulieu-Pelletier, G., & Lecours, S. (2011). The role of need satisfaction as a distinct and basic psychological component of autobiographical memories: A look at well-being. *Journal of Personality, 79*, 905-938.
- Powers, T. A., Gorin, A. A., Hope, N., Holding, A., Chua, S., & Koestner, R. (2015). Effects of Neuroticism on Goal Support, Goal Progress, and Depressive Symptoms. *Journal of Social and Clinical Psychology, 34*, 674-691.

- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality, 63*, 397-427.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*, 749-761.
- Ryan, R. M., Stiller, J. D., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *The Journal of Early Adolescence, 14*, 226-249.
- Satzinger, J. W., Garfield, M. J., & Nagasundaram, M. (1999). The creative process: the effects of group memory on individual idea generation. *Journal of Management Information Systems, 15*, 143-160.
- Schmider, E., Ziegler, M., Danay, E., Beyer, L., & Bühner, M. (2010). Is it really robust?. *Methodology, 6*, 147-151.
- Sheldon, K. M. (2002). The self-concordance model of healthy goal- striving: When personal goals correctly represent the person. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination theory*. Rochester, NY: University of Rochester Press.
- Sheldon, K. M., & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons for goals as predictors of effort and attainment. *Personality and Social Psychology, 24*, 546-557.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: the self-concordance model. *Journal of Personality and Social Psychology, 76*, 482-497.

- Sheldon, K. M., & Filak, V. (2008). Manipulating autonomy, competence, and relatedness support in a game-learning context: New evidence that all three needs matter. *British Journal of Social Psychology, 47*, 267-283.
- Sheldon, K. M., & Hilpert, J. C. (2012). The balanced measure of psychological needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion, 36*, 439-451.
- Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: two aspects of personality integration. *Journal of Personality and Social Psychology, 68*, 531-543.
- Smith, A., Ntoumanis, N., & Duda, J. L. (2007). Goal striving, goal attainment, and well-being: Adapting and testing the self-concordance model in sport. *Journal of Sport and Exercise Psychology, 29*, 763-782.
- van Jaarsveld, D. D., Walker, D. D., & Skarlicki, D. P. (2010). The role of job demands and emotional exhaustion in the relationship between customer and employee incivility. *Journal of Management, 36*, 1486-1504.
- Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the motivational impact of intrinsic versus extrinsic goal framing and autonomy-supportive versus internally controlling communication style on early adolescents' academic achievement. *Child Development, 76*, 483-501.
- Wheeler, S. C., Smeesters, D., & Kay, A. C. (2011). Culture modifies the operation of prime-to-behavior effects. *Journal of Experimental Social Psychology, 47*, 824-829.

Tables

Table 1
Games-Howell Post Hoc Results for Mean Impression Score by Condition

Need-Supportiveness Condition	Mean Impression Score	Mean Differences		
		1	2	3
1. Need-Supportive	2.65	---		
2. Neutral (Control)	2.55	.10* (.31)	---	
3. Need-Threatening	2.41	.24* (.62)	.14* (.35)	---

Note. Effect Sizes are in the parentheses.

* $p < .05$.

Table 2
Descriptive Statistics, Correlation Coefficients, and Coefficient Alphas (N = 381)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. NS	---	---	---	---										
2. NT	---	---	---	---										
3. Goal Attainment	.79	.25	.03	-.09	---									
4. Self-Concordance	0.0	2.2	.04	.07	-.02	(.41)								
5. Competence	3.0	.84	-.02	.08	.29*	.33*	(.66)							
6. Autonomy	3.5	.81	-.02	.05	.00	.30*	.33*	(.57)						
7. Relatedness	3.7	.78	.12*	-.09	.06	.15*	.14*	.24*	(.68)					
8. Core Self-Evaluations	3.5	.25	.00	.03	.10*	.06	.20*	.17*	.20*	(.84)				
9. Positive Affect	3.3	.63	-.02	.05	.11*	.18*	.24*	.21*	.02	.30*	(.76)			
10. Negative Affect	2.3	.63	.05	-.03	-.01	-.01	-.04	-.09	-.23*	-.52*	-.19*	(.76)		
11. Relevance	3.3	1.2	.05	-.05	.02	.25*	.14*	.25*	.17*	-.01	.11*	-.01	---	
12. Distractedness	2.2	.93	.03	-.03	-.11*	-.14*	-.28*	-.14*	-.20*	-.26*	-.12*	-.29*	-.12*	---

Note. * $p < .05$.

Coefficient alpha reliability estimates are on the diagonal. Self-Concordance is standardized. NS = Need-supportive vs. Control contrast; NT = Need-threatening vs. Control contrast.

Table 3
Path Coefficients and Indirect Effects of the Self-Concordance Mediation (Hypothesis 1)

	Regression Coefficient to				Indirect Effect Through Self-Concordance on					
	Self-Concordance	Competence	Autonomy	Relatedness	Competence		Autonomy		Relatedness	
					<i>B</i>	CI	<i>B</i>	CI	<i>B</i>	CI
NS	.44 (.27)	-.01 (.10)	-.02 (.10)	.14 (.09)	.04 (.03)	-.03, .14	.04 (.02)	-.02, .11	.02 (.02)	-.01, .09
NT	.57 (.26)	.08 (.10)	.04 (.09)	-.09 (.09)	.05 (.03)	-.01, .15	.05 (.03)	-.01, .13	.02 (.02)	-.01, .08
Self-concordance	---	.1* (.02)	.08* (.02)	.04 (.02)						
Relevance	.42* (.09)	.03 (.03)	.12* (.03)	.09 (.03)						
Distractedness	-.27 (.12)	-.21* (.05)	-.05 (.04)	-.10 (.04)						
Positive Affect	.53* (.18)	.23* (.07)	.17* (.06)	-.08 (.06)						
Negative Affect	.16 (.16)	.07 (.06)	-.06 (.06)	-.23* (.06)						

Note. * $p < .002$

Results of the indirect effect are based on 10,000 bootstrap samples. NS = Need-supportive vs. Control contrast; NT = Need-threatening vs. Control contrast; CI = Bias-corrected bootstrap 99.2% confidence interval.

Table 4
Path Coefficients and Indirect Effects of the Goal Attainment Mediation (Hypothesis 2)

	Regression Coefficient to				Indirect Effect Through Goal Attainment on					
	Goal Attainment	Competence	Autonomy	Relatedness	Competence		Autonomy		Relatedness	
					<i>B</i>	CI	<i>B</i>	CI	<i>B</i>	CI
NS	.00 (.03)	.03 (.10)	.01(.10)	.16 (.09)	.00 (.03)	-.07, .07	.00 (.01)	-.02, .02	.00 (.01)	-.02, .02
NT	-.05 (.03)	.17 (.10)	.08 (.10)	-.06 (.09)	-.04 (.03)	-.14, .03	.01 (.01)	-.02, .05	-.01 (.01)	-.05, .01
Goal Attainment	---	.85* (.16)	-.12 (.16)	.12 (.16)						
Relevance	.00 (.01)	.07 (.03)	.16* (.03)	.10* (.03)						
Distractedness	-.03 (.01)	-.21* (.05)	-.07 (.05)	-.11 (.04)						
Positive Affect	.05 (.02)	.24* (.06)	.22* (.07)	-.06 (.06)						
Negative Affect	.02 (.02)	.08 (.06)	-.04 (.06)	-.22* (.06)						

Note. * $p < .002$

Results of the indirect effect are based on 10,000 bootstrap samples. CI = Bias-corrected bootstrap 99.2% confidence interval. NS = Need-supportive vs. Control contrast; NT = Need-threatening vs. Control contrast.

Table 5
Path Coefficients and Indirect Effects of the Post Hoc Analysis

	Goal Attainment	Regression Coefficient to			Indirect Effect Through Goal Attainment on					
		Competence	Autonomy	Relatedness	Competence		Autonomy		Relatedness	
					<i>B</i>	CI	<i>B</i>	CI	<i>B</i>	CI
Self-Concordance Goal Attainment	-.01 (.01)	.10* (.02)	.08* (.02)	.04 (.02)	-.01 (.01)	-.02, .01	.00 (.01)	-.01, .01	.00 (.01)	-.01, .01
Relevance	.00 (.01)	.87* (.16)	-.08 (.16)	.16 (.16)						
Distractedness	-.03 (.01)	.02 (.03)	.12* (.03)	.09* (.03)						
Positive Affect	-.03 (.01)	-.19* (.05)	-.05 (.05)	-.09 (.04)						
Negative Affect	.05 (.02)	.19* (.06)	.18* (.06)	-.09 (.06)						
	.02 (.02)	.06 (.06)	-.05 (.06)	-.23* (.06)						

Note. * $p < .016$

Results of the indirect effect are based on 10,000 bootstrap samples. CI = Bias-corrected bootstrap 98.33% confidence interval.

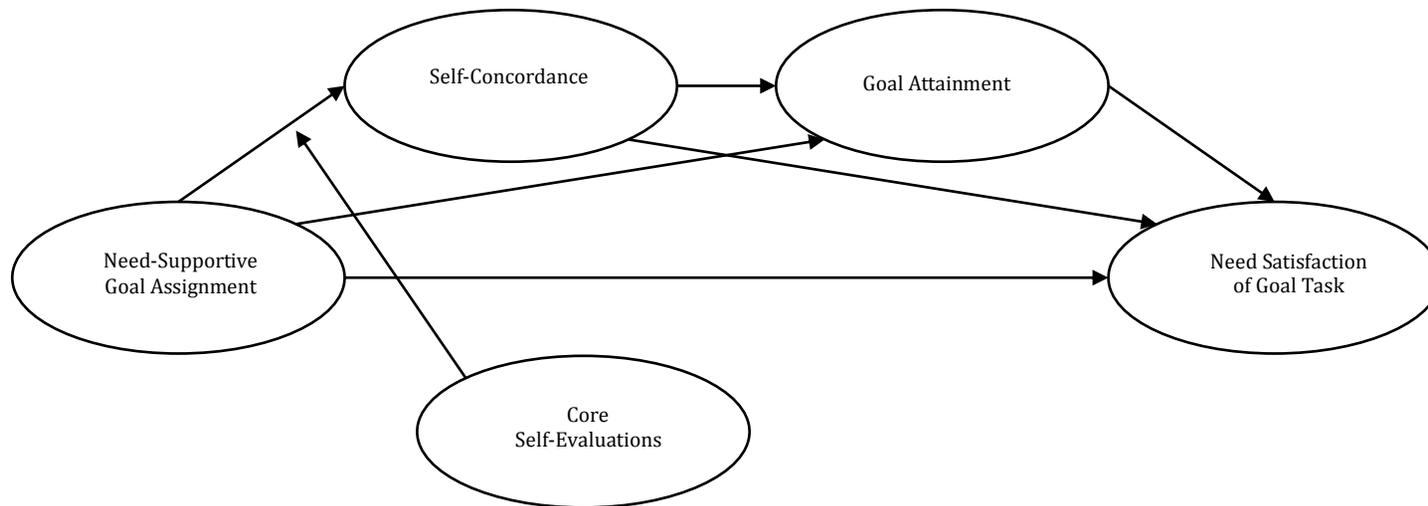
Figures

Figure 1. Hypothesized moderated serial mediation model.

Initial Prompt Across All Conditions

Initial Prompt: “NCSU has identified several problems relating to campus transportation. In this study, we will ask you to generate unique, but realistic ideas regarding how to solve one of these problems. To be respectful of your time, we will limit your participation on the task to 10 minutes. Therefore, prior to beginning the task, please be sure that you can provide your undivided attention for the entire 10 minutes.”

Need-Supportive Goal Instructions and Assignment

Instructions: “The following issue may or may not be of interest to you or directly affect you; however, research shows that it is a relevant problem for many, and can directly negatively impact all of us at this university, including students like you. We understand that this task may not be very fun, but because many of these issues affect students, we think that you can provide an expert opinion regarding how to solve these types of problems; therefore, we need your help. With the hope of improving NC State, we invite you to provide your input on the following task. When providing your ideas, you might want to state them in a clear and straightforward manner so that you do not have to elaborate more than necessary. When you are ready, you may click below to begin the task.”

Assignment: “This is a challenging task, but we are confident that you will perform well. Many students like you have helped us with this task, so we hope that you are also willing to help. We ask that you generate at least 15 distinct and creative, but workable solutions to the parking problem on campus.”

Need Threatening Goal Instructions and Assignment

Instructions: “The following issue is a problem that the university has identified and would like to solve. The university views this as a very important problem, thus all students should also view it as an important issue to solve. In most cases, the University’s administrators would be in charge of solving these issues because students are not typically equipped with the expertise or knowledge needed for deciding how to solve many of these problems. However, you still need to provide your input on the following task because we want to be sure that we have not left out any reasonable solutions to these problems. In order to prevent yourself from elaborating more than necessary, you must state your ideas clearly and in a straightforward manner. Now, you need to click below to begin the task.”

Assignment: “This is a challenging task. Most students cannot generate many ideas, but maybe you will get lucky. Know that we are only interested in hearing ideas that can solve this problem, not your personal concerns. You must generate at least 15 distinct and creative, but workable solutions to the parking problem on campus.”

Neutral Goal Instructions and Assignment (Control)

Instructions: “As previously mentioned, the North Carolina State University Transportation Department has identified several important issues that they would like to resolve. The purpose of the present study is to seek input from a variety of stakeholders, including students like you, to determine the best ways to resolve each of these transportation problems. Therefore, on the following task, we will randomly assign you to one of these problems and your job will be to come up with a list of ideas pertaining to how we should address that particular problem. Remember, you will have 10 minutes to generate your list of ideas. It is best to state your ideas clearly and in a straightforward manner so that you do not have to elaborate more than necessary. Please click below to begin the task.”

Assignment: “Your 10 minutes have now begun. Please read the following statement: This is a challenging task, but please do your best on it. Remember it is best to state your responses in a clear and straightforward manner. Please generate at least 15 distinct and creative but workable solutions to the parking problem on campus.”

Figure 2. Initial prompt across all conditions, and the manipulating instructions and goal assignment for each condition.

APPENDIX

Appendix A: Approved Thesis Proposal Document – 10/30/2015

Need-Supportive Goal Assignment and the Self-Concordance Model: A Moderated Serial Mediation

Individuals strive to complete their goals, both personal and work related, on a day-to-day basis. Researchers agree that although setting goals improves task performance, there are certain moderating variables that affect the effectiveness of goal setting. For instance, goals are most effective when they are specific and difficult (Locke & Latham, 1990), when they are accompanied with feedback (Bandura & Cervone, 1983), and when they garner commitment (Erez & Zidon, 1984). More recently, researchers have discovered that the self-concordance of a goal can predict one's attainment of that goal and can lead to positive changes in well-being. A goal is self-concordant when it aligns with an individual's personal interests and values (Sheldon & Elliot, 1999). Presently, the majority, if not the entirety, of the self-concordance research has only involved self-set or participative goal setting (e.g., Greguras & Diefendorff, 2010; Koestner, Lekes, Powers, & Chicoine, 2002; Sheldon & Elliot, 1999). However, in some contexts, such as the workplace, goals may not always be self-set or participative but instead assigned to employees. Therefore, it is important to understand how these goals might operate through the self-concordance model to lead to the same outcomes that self-set or participative goals do.

The purpose of this research is to explore how the self-concordance model applies to assigned goals. Specifically, I propose that the way people assign goals affects whether recipients perceive them as self-concordant. If careful phrasing of assigned goals can affect self-concordance and thus goal attainment, this has significant practical implications for

employers who regularly assign goals to their employees. Furthermore, employee well-being should also improve due to the nurturance of their three basic psychological needs (Deci & Ryan, 2000) that occurs through the self-concordance model (Sheldon & Elliot, 1999). Finally, I propose that individual differences may affect people's ability or likelihood to perceive assigned goals as self-concordant. Researchers claim that individuals high in core self-evaluations (CSE), or appraisals of self-worth, capabilities, and the control they have over life-events (Judge, Erez, Bono, & Thoresen, 2003), are more likely to set self-concordant goals (Judge, Bono, Erez, & Locke, 2005). Therefore, I will investigate the effect that CSE has on the self-concordance of assigned goals. Find the complete proposed model in Figure 1.

The Self-Concordance Model

Deriving from self-determination theory (SDT; Deci & Ryan, 2000), the self-concordance model was developed through a series of three longitudinal studies involving individuals' personal goals (Sheldon & Elliot, 1999). Researchers originally established the model to examine why individuals pursue the goals they set for themselves and how their motives affect their long-term well-being (Sheldon, 2002). The model illustrates a goal process that begins with the adoption and internalization of the goal and ends in changes in well-being. When goals are self-concordant, their attainment is more likely, the goal seekers experience need-satisfaction, and thus their well-being improves (Sheldon & Elliot, 1999). This is because self-concordant goals are high in autonomous motivation (Sheldon & Elliot, 1998) which accentuates an internal perceived locus of causality (PLOC). Internal PLOC is the extent to which people perceive themselves to be the cause of their behavior

rather than perceiving external forces as being the cause of their behavior (DeCharms, 1968). Sheldon & Elliot (1998) contend that when individuals pursue goals for more autonomous (internally driven) as opposed to controlled (externally driven) reasons, these goals are more likely to elicit greater effort and consequently greater goal attainment.

Based on the concept of self-determination, the self-concordance continuum ranges from controlled to autonomous regulatory styles or motivations for acting. Ranging from most controlled to most autonomous motivations respectively, researchers call the four regulatory styles external, introjected, identified, and intrinsic regulation (Sheldon & Elliot, 1998). External regulation refers to instances where one's behavior is motivated in response to an external force such as a reward or punishment or the command of an external authority figure. Introjection involves engaging in a behavior compelled by negative pressures emanating from within the self, such as guilt, anxiety, or shame. Identified motives originate from within one's self, but because they align with one's own interests and values, people pursue them because they "want to" rather than because they "ought to" or "have to." Finally, intrinsic motivation prompts behavior purely for its enjoyment or pleasure (Ryan & Connell, 1989). Scholars have termed goals pursued for intrinsic or identified reasons as self-concordant goals, and have deemed goals pursued due to introjected or external reasons as not self-concordant (Sheldon & Elliot, 1999).

Although the self-concordance model centers on the motivation behind one's behavior, it also focuses on Deci and Ryan's (2000) three basic psychological needs of SDT: competence, autonomy, and relatedness (Sheldon & Elliot, 1999). Competence refers to one's understanding of the necessary behaviors required to obtain desired outcomes and

possessing the abilities to execute such behaviors, autonomy relates to having the ability to regulate and initiate one's own behavior, and relatedness is the need to build satisfying social connections with other individuals (Deci, Vallerand, Pelletier, & Ryan, 1991). Sheldon and Elliot (1999) state that by pursuing self-concordant goals, individuals are able to better satisfy these needs. For instance, because people perceive that self-concordant goals reflect their personal interests, these types of goals help fulfill their need for autonomy. Self-concordant goals also meet the need for competence because they tend to initiate greater effort and subsequent goal attainment. Finally, researchers determined that individuals who pursue non-self-concordant goals are more likely to be preoccupied with stress relieving activities (e.g., watching television, working out) in order to reduce the tension they experience in their lives, while individuals who pursue self-concordant goals are more likely to engage in meaningful activities such as helping others, thus satisfying relatedness (Sheldon & Kasser, 1995). Given this knowledge of goal self-concordance outcomes, it is important to understand the role that goal-setting plays within the self-concordance model, or the origination of self-concordant goals.

The Self-Concordance of Assigned Goals

In general, goal-setting theory is well established and it reliably predicts motivation, especially in a workplace domain. However, some uncertainties remain, such as how the role of assigned goals and self-set or participative goals might be qualitatively different (Locke & Latham, 2002). While some research has suggested that participation in the goal-setting process leads to greater performance (Erez & Arad, 1986; Erez & Earley, 1987), others have concluded that there are no performance differences between assigned and participative goal-

setting (e.g., Chang & Lorenzi, 1983; Latham, Steele, & Saari, 1982; Latham, Winters, & Locke, 1994; Latham & Yukl, 1976). In some contexts, assigned goals have even led to greater performance (Chang & Lorenzi, 1983). While potential differences between assigned and self-set goals provide reason to examine the self-concordance model in a different goal context, the research that claims no differences between these types of goals provides theoretical promise that assigned goals may act similarly to self-set goals in the self-concordance model. Therefore, the lack of previous research of assigned goals in the self-concordance model should not prevent us from expanding the model to incorporate assigned goals. As Sheldon and Elliot (1999) state, the self-concordance model does not begin until people have selected and committed to a goal. In other words, the model does not address the origins of a self-concordant goal, but instead it describes how such a goal influences behavior once someone sets it. Therefore, for a goal to be self-concordant, it is not actually necessary for individuals to be involved in the goal-selection process but simply to perceive the goal to be autonomously motivated, regardless of its origin.

This notion may seem surprising and contradictory to the self-concordance model because we would expect that choosing one's own goal would be more autonomously motivating and thus lead to greater self-concordance. However, because people's decisions are flawed, self-setting their personal goals does not necessarily mean those goals will be self-concordant (Sheldon & Elliot, 1998). Furthermore, Ryan and Connell (1989) emphasize that although intrinsically motivated behaviors are those that occur without any external influence, this does not mean that all extrinsically incentivized behaviors (behaviors that occur in the presence of external forces) give rise to external PLOC. The process of

internalization can explain this phenomenon. Largely due to the need for relatedness, internalization is a process through which individuals are motivated to transform their perceptions of regulations or values (despite their lack of intrinsic appeal) from external into internal (Deci & Ryan, 1990). This suggests that people are able to transform their perceptions such that an assigned goal may feel or appear to be consistent with their personal interests. In other words, with appropriate methods of goal presentation, people will create a personal goal from an assigned goal, thus making it their own (e.g., Gibbons & Weingart, 2001; Locke & Latham, 2002; Meyer & Gellatly, 1988).

Given the previous research on internalization, we would expect to observe the same process of translating assigned goals into personal goals in the current research. However, it is still important to determine the extent to which individuals internalize their goals. For instance, consider an individual who internalizes an externally regulated goal into an introjected goal. Although internalization took place, it still resulted in a goal that is not self-concordant, and thus will lead to lower levels of effort and attainment than would a fully internalized goal. Therefore, the first objective of the current research will be to assess the following research question:

Research Question 1: Does the self-concordance model explain how some individuals might internalize assigned goals and pursue them for self-concordant reasons that lead to higher goal attainment and higher need satisfaction?

Need Support

Because assigned goals play a critical role in organizations, determining how to assign a goal so that it leads to internalization and self-concordance, and thus goal

attainment, is an important line of inquiry. Research has shown that people are more encouraged to pursue a behavior intrinsically in situations where their three basic psychological needs (i.e., competence, autonomy, relatedness) are stimulated (e.g., Deci, et al., 1991; Grolnick & Ryan, 1989; Ryan, 1995; Ryan, Stiller, & Lynch, 1994).

Although research supports the notion that the internalization of external motives can develop from need-supportive contexts, it is difficult to imagine how people might perceive the external pressures of an assigned goal as supporting internal motives. Deci, Eghrari, Patrick, & Leone (1994) explored these supportive contexts and concluded that three factors stimulate psychological needs and thus promote internalization. First, providing a meaningful rationale will help individuals to perceive that the task has some personal meaning. Second, acknowledging the lack of intrinsic motivation people feel towards a task can reduce the tension they feel from external pressures to perform. This allows people to recognize that such feelings are not wrong or inconsistent with engaging in the task. Finally, conveying a sense of choice rather than the imposition of requirement should reduce external pressures and directly support individuals' need for autonomy.

Although many studies have reinforced the notion that supporting one's needs will lead toward an intrinsic motivation to engage in a task, less research has investigated how need-supportive situations affect goal setting. Therefore, Milyavskaya, Nadolny, & Koestner, (2014) examined how need-supportive contexts influenced the self-concordance of people's goals, and they found that when people were immersed in need-satisfying contexts, they were more likely to perceive their goals as more self-concordant.

Therefore, expanding upon past research, the proposed study aims to assign goals within the context of the need-supportive factors as described by Deci et al., 1994. Within this context, I propose that after completing the goal task, individuals will feel a sense of need satisfaction. Furthermore, I expect that goals assigned within this context will lead people to perceive the goal as more self-concordant than goals assigned in a need-threatening manner. Thus, I propose the following hypotheses:

Hypothesis 1: Need-supportive goal assignment will more positively predict need satisfaction of the assigned-goal task than need-threatening goal assignment.

Hypothesis 2: Need-supportive goal assignment will more positively predict goal self-concordance than need-threatening goal assignment.

In addition to boosting the self-concordance of goals, the internalization of motives due to supported needs can also directly improve goal performance. For instance, Vansteenkiste, Simons, Lens, Soenens, and Matos (2005) found that certain types of learning were higher for goals assigned in an autonomy supportive way (e.g., “we invite you to,” or “you can decide for yourself to”) rather than in a controlling way (e.g., “you are expected to,” or “you should”). However, while this study provides a framework for how to implement one of the facilitating factors of need support in a goal-setting context, Deci et al. (1994) concluded that there was more internalization when two or three facilitating factors were present as opposed to zero or one. Therefore, when assigning goals using all three facilitating factors, I propose the following:

Hypothesis 3: Need-supportive goal assignment will more positively predict goal attainment than need-threatening goal assignment.

Self-Concordance and Goal Attainment as Mediators

Although assigning goals using need-supportive communication should create an initial need-supportive context, other variables may mediate the relationship between this need-supportive context and need-satisfaction from task accomplishment (Sheldon & Elliot, 1999). Though most of the research involving self-concordance and need satisfaction has only examined this relation through the mediation of goal attainment, Greguras and Diefendorff (2010) concluded that simply pursuing a self-concordant goal could boost one's need satisfaction. In other words, although attainment may further promote need satisfaction, it may not be necessary for increasing the need satisfaction of a self-concordant goal task. Therefore, I propose the following:

Hypothesis 4: The positive relation between need-supportive goal assignment and need satisfaction of the goal task will be mediated by goal self-concordance.

Along the same line of thought, Smith, Ntoumanis, and Duda (2007) exhibited that even the attainment of non-self-concordant goals will increase need satisfaction. Thus, I propose the following:

Hypothesis 5: The positive relation between need-supportive goal assignment and need satisfaction of the goal task will be mediated by goal attainment.

Despite the hypothesized significance of the aforementioned indirect effects, in order to account for the most variance, the proposed study will form a serial multiple-mediator model that encapsulates each variable of interest into a single model. Serial mediation models allow testing of multiple mediators together in a causal sequence, such that the first

mediator influences the second mediator (Hayes, 2013). Combining all of the aforementioned variables into a single model, I propose the following:

Hypothesis 6: The positive relation between need-supportive goal assignment and need satisfaction of the goal task will be sequentially mediated by self-concordance and goal attainment, respectively.

Thus far, I have proposed that the goal assignment context affects the self-concordance of the goal, and thus goal attainment and need-satisfaction of the task. However, researchers have also examined the association between the disposition of core self-evaluations (CSE) and self-concordance (Judge et al., 2005).

Core Self-Evaluations

The CSE disposition is comprised of indices of four specific personality traits: self-esteem, generalized self-efficacy, neuroticism, and locus of control (Judge et al., 2003), and is linked to a number of outcomes such as satisfaction, work commitment, motivation, and performance (Chang, Ferris, Johnson, Rosen, & Tan, 2011). Given the association between CSE and self-concordance, Judge et al. (2005) concluded that individuals who scored high on CSE were better at selecting self-concordant goals. Although this may be true, one alternative explanation is that individuals high in CSE may simply be better at perceiving or internalizing goals to be self-concordant. Therefore, I propose the following hypothesis:

Hypothesis 7: CSE will moderate the relation between need-supportive goal assignment and self-concordance, such that the relation between need-supportive goal assignment and self-concordance will be stronger when CSE is high.

Integrating CSE into the entire serial mediation model, I propose the following hypothesis for the conditional indirect relation between need-supportive goal assignment and need satisfaction of the goal task:

Hypothesis 8: CSE will moderate the indirect relation between need-supportive goal assignment and need satisfaction of the goal task, such that the sequentially mediated relation between need-supportive goal assignment and need satisfaction of the goal task through self-concordance and goal attainment will be stronger for those who are higher in CSE.

Method

Participants

Approximately 300 undergraduate students enrolled in an introductory psychology course at North Carolina State University will provide data for this study. This sample size is consistent with previous research that has used similar conceptual models to the one that I propose for this study (e.g., van Jaarsveld, Walker, & Skarlicki, 2010; Wheeler, Smeesters, & Kay, 2011).

Procedure

The study will include a survey that students will complete at a single time through Qualtrics, an online survey software site. Participants will begin the survey by completing the individual difference measures. Next, they will read an initial prompt that informs them that University administrators have identified several issues with the transportation department that require attention and that it wants to collect input from various stakeholders, including students, to resolve these concerns. The prompt will continue by explaining to the

participants that they will be contributing to an idea-generation task that involves generating novel yet realistic ideas to help solve one of these problems. The idea-generation task is fitting for this line of research, as goal-setting researchers have successfully used it in the past (e.g., Locke, 1982; Locke, Chah, Harrison, & Lustgarten, 1989; Locke, Frederick, Buckner & Bobko, 1984) Finally, because the idea-generation activity will have a 10-minute time limit, the prompt will ask participants for their undivided attention.

When participants are ready to begin the task, random assignment to one of the three study conditions will occur. The task itself and the start of the 10-minute time limit will begin at the same moment that participants learn the exact nature of the task and their goal assignment.

After completing the idea-generation task, participants will reply to reaction measures that correspond to the task. Finally, participants will read a debriefing paragraph that explains the true purpose of the study. See Appendix A for the complete debriefing paragraph.

Experimental Design and Task

The assigned goal for all participants will be to generate at least fifteen distinct and creative, but workable solutions to “the parking problem on campus” within a 10-minute period. I chose this number of fifteen ideas based on a pilot study. Although the goal is only to generate fifteen ideas, the task will provide 25 spaces should any participants generate more than fifteen ideas.

The task pertains to a parking problem on campus because this is an issue with which most all students should be personally familiar, thus making it an appropriate task for them

(Gordon, Slade, & Schmitt, 1986). Additionally, “the parking problem” is intentionally vague to allow participants to interpret it in their own way to encourage creative and unrestricted idea generation. Prior research has successfully used this same “parking problem” in idea-generation tasks (e.g., Connolly, Jessup, & Valacich, 1990; Satzinger, Garfield, & Nagasundaram, 1999).

This study will use an experimental design with three conditions: need supportive goal-assignment, need threatening goal-assignment, and a control condition using neutral language. Similar to methods used in previous research (e.g., Deci et al., 1994; Sheldon & Filak, 2008; Vansteenkiste et al., 2005) the conditions will vary in the framing of the communications of the goal assignment: All participants will be trying to achieve the same numeric goal of at least 15 ideas. Appendix B contains a full description of the goal assignment conditions.

Manipulations

These conditions will vary in both their manipulations of the instructions for the goal task, which will occur during the untimed portion, and the goal assignment itself, which will occur when the 10-minute time limit begins. All task instructions across conditions will be nearly identical in word-length.

Need-supportive instruction. In the need-supportive condition, the instructions will support the three basic psychological needs by providing a meaningful rationale, by acknowledging the participants’ perspectives, and by conveying a sense of choice (Deci et al., 2004). For example, the following statements will provide a meaning rationale for why participants should help with the task:

“...research shows that it (the issue) is a relevant problem for many, and can directly negatively impact all of us at this university, including students like you.”

“...but because many of these issues affect students, we think that you can provide an expert opinion regarding how to solve these types of problems; therefore, we need your help.”

They will also elicit feelings of relatedness to other students and the researchers by creating a sense of belonging and togetherness through phrases like, “...all of us at this university, including students like you.” Furthermore, stating that students are the “experts,” will support the need for competence.

The following statements will acknowledge the participants’ perspectives:

“The following issue may or may not be of interest to you or directly affect you...”

“We understand this task may not be very fun...”

These statements will legitimize negative feelings that participants might have about the task, for instance, that the task might not be interesting. In so doing, these statements should reduce the tension between participants’ experienced feelings and their future actions. This should allow them to accept the way they feel about the task, while still completing it, thus supporting their need for autonomy (Deci et al., 1994). Additionally, acknowledging and caring about their individual feelings should help create a sense of relatedness between researcher and participant (Sheldon & Filak, 2008).

Finally, these instructions should create a sense of choice or autonomy by using keywords and phrases such as, “may or may not,” “we invite you to,” “you might want to,” “you may,” and “we ask,” throughout various points in the passages. These phrases will allow participants to choose the way they approach the task (Vansteenkiste et al., 2005).

In addition to manipulating the goal instructions, I will also manipulate the framing of the goal assignment itself. The need-supportive goal assignment will directly support the three basic psychological needs. For instance, the statement, "...we are confident that you will perform well" will instill a sense confidence in participants' competence.

Need-threatening instruction. In the need-threatening goal assignment condition, the instructions will not be need supportive. Instead of providing a meaningful rationale, the instructions will tell participants that they should view the task as important and complete it because the university simply wants them to do so:

"The university views this (issue) as a very important problem, thus all students should also view it as an important issue to solve."

"...students are not typically equipped with the expertise or knowledge needed for deciding how to solve many of these problems."

These statements will threaten participants' autonomy by instructing them to complete the task because the university wants them to do it. Furthermore, these statements will devalue the participants' input and threaten their competence by stating that the students do not have the expertise to help with these issues.

Finally, like the need-supportive condition, these instructions will manipulate autonomy using various keywords or phrases throughout the entire passage. However, these keywords and phrases will include words and phrases such as, "you should," "you must," and "you need to," instead of phrases like, "we ask." These phrases should diminish participants' sense of choice and instead, instill a sense of obligation (Vansteenkiste et al., 2005).

Again, in addition to manipulating the goal instructions, I will also use need-threatening phrasing in the goal assignment. For instance, this statement should devalue

participants' personal opinions, and portray them as indistinguishable test subjects as opposed to unique individuals: "Know that we are only interested in hearing ideas to solve this problem, not your personal concerns." This should create a barrier between participant and researcher, thus threatening relatedness.

Neutral (control) instruction. Lastly, the control condition will use neutral language to describe the goal task as opposed to need-supportive or need-threatening phrasing. For example, instead of using words such as "must" (controlling), or "we ask" (autonomous), the neutral condition will use neutral statements such as "please click below to begin the task." Rather than providing any meaningful rationale, acknowledging participants' perspectives, or conveying a sense of choice, the instructions and goal assignment of the control condition will restate prior instructions in order to keep word-length consistent across conditions.

Measures

Core self-evaluation. To measure CSE, I will use the 12-item Core Self-Evaluation Scale (CSES; Judge et al., 2003), modified to be appropriate for a student sample. Judge et al. (2003) have estimated coefficient alpha reliability to be around .84. Appendix C includes the complete list of items from the CSES.

Positive and Negative Affect. To control for potential mood effects and based on the original Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988), I will measure mood using the shortened State version of the PANAS (Mackinnon et al., 1998). This measure consists of adjectives for positive and negative emotions, split evenly across ten items. The measure will ask participants to indicate the extent to which they feel

each of these emotions at that present moment on a scale ranging from 1 (very slightly or not at all) to 5 (very much). Mackinnon et al., 1998 reported a coefficient alpha of .78 for the positive affect scale and a .87 for the negative affect scale. See Appendix D to view each of the ten adjectives included on the shorted PANAS.

Self-concordance. I will measure goal self-concordance using the same method as Sheldon & Elliot (1999). Using a scale ranging from 1 (not at all for this reason) to 9 (completely for this reason), I will ask participants to rate the extent to which they pursued the assigned goal for each of the following four reasons (external, introjected, identified, and intrinsic). I will then calculate a self-concordance composite score by subtracting the external and introjected scores from the sum of the intrinsic and identified scores. Sheldon & Elliot (1999) obtained a coefficient alpha of .80. See Appendix E for the entire self-concordance measure.

Goal attainment. I will use a measure of goal attainment that is a direct observation of the number of unique ideas generated in the idea generation task. Multiple, independent raters who will be uninformed of the true nature of the research will eliminate redundant answers and answers that are not relevant to the parking problem on campus. I will then count ideas with 100% interrater agreement toward each participant's total score.

Need satisfaction. Participants will rate the extent to which they felt their psychological needs were satisfied during the idea-generation task on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale itself consists of 9 items (3 for each psychological need) that stem from previous research (Philippe, Koestner, Beaulieu-Pelletier, & Lecourse, 2011; Sheldon & Filak, 2008; Sheldon & Hilpert, 2012). See

Appendix F for the complete need satisfaction measure. Following recommendations from Sheldon & Hilpert, 2012, rather than combining each of the three psychological needs into a single need satisfaction composite score, I will score each psychological need separately in order to detect any potential differences in effects on each of the three needs.

Demographic and Control Items. In addition to demographic items such as age, gender, and year in school, the survey will ask questions pertaining to the relevance of the parking problem to participants' lives. Furthermore, to control for the potential effects of rudeness or incivility on task performance (Porath & Erez, 2007), participants will provide their impressions of the task instructions and goal assignment prompts. Finally, one final item will ask participants to rate the extent to which they agree with the following statement "I was distracted during the idea-generation task" on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Appendix G includes the full demographics and control portion of the survey.

Proposed Analyses

First, I will calculate the means, standard deviations, and correlations of each of the variables of interest. Next, to test the direct effects of hypotheses 1-3, need satisfaction of the assigned task (H1), self-concordance of the assigned task (H2), and goal attainment (H3), will each be regressed onto the need-supportive goal assignment variable.

In order to test the remaining hypotheses I will use the SPSS macro PROCESS (Hayes, 2012). PROCESS uses a path analysis framework to estimate the direct, indirect, and conditional indirect effects of a model with one or more mediators through a linear regression. Therefore, after first mean centering all continuous variables (Aiken & West,

1991), I will be able to test the entire hypothesized model at once. In the first stage, I will examine the single mediator relations proposed in hypotheses 4 and 5 where self-concordance (H4) and goal attainment (H5) each independently of one another mediate the relation between need-supportive goal assignment. Next, I will test the complete serial multiple-mediation model where self-concordance and goal attainment sequentially mediate the relation between need-supportive goal assignment and need satisfaction of the goal task (H6). To test the significance of these indirect effects, I will use bootstrapping to create confidence intervals. Bootstrapping is a resampling strategy that samples a specified number of units from the original sample with replacement. However, unlike many other resampling strategies, bootstrapping does not require the assumption of a normal distribution and it increases statistical power (Preacher, Rucker, & Hayes, 2007).

I will examine the moderating effect of CSE on the relation between need-supportive goal assignment and self-concordance (H7) by regressing self-concordance on need-supportive goal assignment, CSE, and the interaction between need-supportive goal assignment and CSE. Then I will analyze the conditional effect of CSE on the indirect effect between need-supportive goal assignment and need satisfaction of the goal task through the sequential relation of self-concordance and goal attainment. Again, to test the significance of the moderated mediation model, I will construct confidence intervals with bootstrapping and I will probe the moderation by estimating the conditional indirect effect at three different levels of CSE. The three levels will represent “low,” “moderate,” and “high” levels of CSE, indicated by one standard deviation below the mean, the mean, and one standard deviation above the mean, respectively (Hayes, 2012).

REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Bandura, A., & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of personality and social psychology, 45*, 1017-1028.
- Chang, C.-H., Ferris, D. L., Johnson, R. E., Rosen, C. C., & Tan, J. A. (2012). Core self-evaluations a review and evaluation of the literature. *Journal of Management, 38*, 81-128.
- Chang, G. S. Y., & Lorenzi, P. (1983). The effects of participative versus assigned goal setting on intrinsic motivation. *Journal of Management, 9*, 55-64.
- Connolly, T., Jessup, L. M., & Valacich, J. S. (1990). Effects of anonymity and evaluative tone on idea generation in computer-mediated groups. *Management science, 36*, 689-703.
- Davis, M. A. (2009). Understanding the relationship between mood and creativity: A meta-analysis. *Organizational behavior and human decision processes, 108*, 25-38.
- DeCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.
- Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality, 62*, 119-142.

- Deci, E. L., & Ryan, R. M. (1990). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska Symposium on Motivation: Vol. 38. Perspectives on motivation* (pp. 237-288). Lincoln: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268.
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist, 26*, 325-346.
- Erez, M., & Arad, R. (1986). Participative goal-setting: Social, motivational, and cognitive factors. *Journal of Applied Psychology, 71*, 591-597.
- Erez, M., & Earley, P. C. (1987). Comparative analysis of goal-setting strategies across cultures. *Journal of Applied Psychology, 72*, 658-665.
- Erez, M., & Zidon, I. (1984). Effect of goal acceptance on the relationship of goal difficulty to performance. *Journal of Applied Psychology, 69*, 69-78.
- Gibbons, D. E., & Weingart, L. R. (2001). Can I do it? Will I try? Personal efficacy, assigned goals, and performance norms as motivators of individual performance. *Journal of Applied Social Psychology, 31*, 624-648.
- Gordon, M. E., Slade, L. A., & Schmitt, N. (1986). The "science of the sophomore" revisited: From conjecture to empiricism. *Academy of Management Review, 11*, 191-207.
- Greguras, G. J., & Diefendorff, J. M. (2010). Why does proactive personality predict employee life satisfaction and work behaviors? A field investigation of the mediating role of the self-concordance model. *Personnel Psychology, 63*, 539-560.

- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*, 143-154.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable moderation, mediation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>.
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York, NY: The Guilford Press.
- Judge, T. A., Bono, J. E., Erez, A., & Locke, E. A. (2005). Core self-evaluations and job and life satisfaction: the role of self-concordance and goal attainment. *Journal of Applied Psychology, 90*, 257-268.
- Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2003). The core self-evaluations scale: Development of a measure. *Personnel psychology, 56*, 303-331.
- Koestner, R., Lekes, N., Powers, T. A., & Chicoine, E. (2002). Attaining personal goals: self-concordance plus implementation intentions equals success. *Journal of Personality and Social Psychology, 83*, 231-244.
- Latham, G. P., Steele, T. P., & Saari, L. M. (1982). The effects of participation and goal difficulty on performance. *Personnel Psychology, 35*, 677-686.
- Latham, G. P., Winters, D. C., & Locke, E. A. (1994). Cognitive and motivational effects of participation: A mediator study. *Journal of Organizational Behavior, 15*, 49-63.
- Latham, G. P., & Yukl, G. A. (1976). Effects of assigned and participative goal setting on performance and job satisfaction. *Journal of Applied Psychology, 61*, 166-171.

- Locke, E. A. (1982). Relation of goal level to performance with a short work period and multiple goal levels. *Journal of Applied Psychology, 67*, 512.
- Locke, E. A., Chah, D. O., Harrison, S., & Lustgarten, N. (1989). Separating the effects of goal specificity from goal level. *Organizational Behavior and Human Decision Processes, 43*, 270-287.
- Locke, E. A., Frederick, E., Buckner, E., & Bobko, P. (1984). Effect of previously assigned goals on self-set goals and performance. *Journal of Applied Psychology, 69*, 694.
- Locke, E. A., & Latham, G. P. (1990). Work motivation and satisfaction: Light at the end of the tunnel. *Psychological Science, 1*, 240-246.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist, 57*, 705-717.
- Mackinnon, A., Jorm, A. F., Christensen, H., Korten, A. E., Jacomb, P. A., & Rodgers, B. (1999). A short form of the Positive and Negative Affect Schedule: Evaluation of factorial validity and invariance across demographic variables in a community sample. *Personality and Individual Differences, 27*, 405-416.
- Meyer, J. P., & Gellatly, I. R. (1988). Perceived performance norm as a mediator in the effect of assigned goal on personal goal and task performance. *Journal of Applied Psychology, 73*, 410-420.
- Milyavskaya, M., Nadolny, D., & Koestner, R. (2014). Where do self-concordant goals come from? The role of domain-specific psychological need satisfaction. *Personality and Social Psychology Bulletin, 40*, 700-711.

- Philippe, F. L., Koestner, R., Beaulieu-Pelletier, G., & Lecours, S. (2011). The role of need satisfaction as a distinct and basic psychological component of autobiographical memories: A look at well-being. *Journal of personality, 79*, 905-938.
- Porath, C. L., & Erez, A. (2007). Does rudeness really matter? The effects of rudeness on task performance and helpfulness. *Academy of Management Journal, 50*, 1181-1197.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate behavioral research, 42*, 185-227.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of personality, 63*, 397-427.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*, 749-761.
- Ryan, R. M., Stiller, J. D., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *The Journal of Early Adolescence, 14*, 226-249.
- Satzinger, J. W., Garfield, M. J., & Nagasundaram, M. (1999). The creative process: the effects of group memory on individual idea generation. *Journal of Management Information Systems, 15*, 143-160.
- Sheldon, K. M. (2002). The self-concordance model of healthy goal- striving: When personal goals correctly represent the person. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination theory*. Rochester, NY: University of Rochester Press.

- Sheldon, K. M., & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons for goals as predictors of effort and attainment. *Personality and Social Psychology, 24*, 546-557.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: the self-concordance model. *Journal of Personality and Social Psychology, 76*, 482-497.
- Sheldon, K. M., & Filak, V. (2008). Manipulating autonomy, competence, and relatedness support in a game-learning context: New evidence that all three needs matter. *British Journal of Social Psychology, 47*, 267-283.
- Sheldon, K. M., & Hilpert, J. C. (2012). The balanced measure of psychological needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion, 36*, 439-451.
- Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: two aspects of personality integration. *Journal of Personality and Social Psychology, 68*, 531-543.
- Smith, A., Ntoumanis, N., & Duda, J. L. (2007). Goal striving, goal attainment, and well-being: Adapting and testing the self-concordance model in sport. *Journal of Sport and Exercise Psychology, 29*, 763-782.
- van Jaarsveld, D. D., Walker, D. D., & Skarlicki, D. P. (2010). The role of job demands and emotional exhaustion in the relationship between customer and employee incivility. *Journal of Management, 36*, 1486-1504.
- Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the motivational impact of intrinsic versus extrinsic goal framing and autonomy-

- supportive versus internally controlling communication style on early adolescents' academic achievement. *Child Development*, 76, 483-501.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, 54, 1063.
- Wheeler, S. C., Smeesters, D., & Kay, A. C. (2011). Culture modifies the operation of prime-to-behavior effects. *Journal of Experimental Social Psychology*, 47, 824-829.

Appendix A

Debriefing Statement

Thank you for your participation. The present study investigates the reasons why people pursue assigned goals and whether the way other people assign goals affect those reasons. **The NCSU Transportation Department was not involved in this study and did not ask us to collect ideas from students on how to solve the parking problem on campus.** We told you this to create a realistic scenario that you might perceive as a relevant and important issue in which we could assign a goal.

Furthermore, the way in which we presented the task and assigned the goal differed among those participating in the study. For instance, we told some participants that they would be likely to succeed on the idea generation task while we told other participants that they probably would not perform very well unless they got lucky. It is important to know that we randomly assigned participants to one of these conditions and that the goal of generating at least 15 ideas was a difficult one for anyone to accomplish. You performed well on this task and we appreciate your willingness to participate.

In summary, we made up the information about the desire to fix the parking problem on campus solely for the purpose of this study. We hope that we can use the findings of this study to develop ways to encourage individuals' to pursue assigned goals.

Others enrolled in PSY 200 may be participating in this study in the future. Please help us maintain proper experimental control by not sharing any of the information about this study with any other students. Thank you!

Appendix B

Initial Prompt Across All Conditions

Initial Prompt: “NCSU has identified several problems relating to campus transportation. In this study, we will ask you to generate unique, but realistic ideas regarding how to solve one of these problems. To be respectful of your time, we will limit your participation on the task to 10 minutes. Therefore, prior to beginning the task, please be sure that you can provide your undivided attention for the entire 10 minutes.”

Goal Instruction and Assignment Manipulations by Condition

Need-Supportive Goal Instructions and Assignment

Instructions: “The following issue may or may not be of interest to you or directly affect you; however, research shows that it is a relevant problem for many, and can directly negatively impact all of us at this university, including students like you. We understand that this task may not be very fun, but because many of these issues affect students, we think that you can provide an expert opinion regarding how to solve these types of problems; therefore, we need your help. With the hope of improving NC State, we invite you to provide your input on the following task. When providing your ideas, you might want to state them in a clear and straightforward manner so that you do not have to elaborate more than necessary. When you are ready, you may click below to begin the task.”

Assignment: “This is a challenging task, but we are confident that you will perform well. Many students like you have helped us with this task, so we hope that you are also willing to help. We ask that you generate at least 15 distinct and creative, but workable solutions to the parking problem on campus.”

Need Threatening Goal Instructions and Assignment

Instructions: “The following issue is a problem that the university has identified and would like to solve. The university views this as a very important problem, thus all students should also view it as an important issue to solve. In most cases, the University’s administrators would be in charge of solving these issues because students are not typically equipped with the expertise or knowledge needed for deciding how to solve many of these problems. However, you still need to provide your input on the following task because we want to be sure that we have not left out any reasonable solutions to these problems. In order to prevent yourself from elaborating more than necessary, you must state your ideas clearly and in a straightforward manner. Now, you need to click below to begin the task.”

Assignment: “This is a challenging task. Most students cannot generate many ideas, but maybe you will get lucky. Know that we are only interested in hearing ideas that can solve

this problem, not your personal concerns. You must generate at least 15 distinct and creative, but workable solutions to the parking problem on campus.”

Neutral Goal Instructions and Assignment (Control)

Instructions: “As previously mentioned, the North Carolina State University Transportation Department has identified several important issues that they would like to resolve. The purpose of the present study is to seek input from a variety of stakeholders, including students like you, to determine the best ways to resolve each of these transportation problems. Therefore, on the following task, we will randomly assign you to one of these problems and your job will be to come up with a list of ideas pertaining to how we should address that particular problem. Remember, you will have 10 minutes to generate your list of ideas. It is best to state your ideas clearly and in a straightforward manner so that you do not have to elaborate more than necessary. Please click below to begin the task.”

Assignment: “Your 10 minutes have now begun. Please read the following statement: This is a challenging task, but please do your best on it. Remember it is best to state your responses in a clear and straightforward manner. Please generate at least 15 distinct and creative but workable solutions to the parking problem on campus.”

Appendix C

Core Self-Evaluation Scale (CSES; Judge, Erez, Bono, & Thoresen, 2003).

5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree)

Please indicate the extent to which you agree or disagree with the following statements.

1. I am confident I get the success I deserve in life.
2. Sometimes I feel depressed.
3. When I try, I generally succeed.
4. Sometimes when I fail I feel worthless.
5. I complete tasks successfully.
6. Sometimes I do not feel in control of my schoolwork.
7. Overall, I am satisfied with myself.
8. I am filled with doubts about my competence.
9. I determine what will happen in my life.
10. I do not feel in control of my success in school.
11. I am capable of coping with most of my problems.
12. There are times when things look pretty bleak and hopeless to me.

Appendix D

Shortened Positive and Negative Affect Scale (PANAS; Watson, Clark, Tellegen, 1988)

5-point scale ranging from 1 (Very slightly or not at all) to 5 (Extremely)

This measure consists of a number of words that describe different feelings and emotions. For each item, indicate to what extent you feel this way right now, that is, at the present moment.

1. Interested
2. Distressed
3. Excited
4. Upset
5. Hostile
6. Enthusiastic
7. Irritable
8. Inspired
9. Nervous
10. Attentive

Appendix E

Self-Concordance Measure (Sheldon & Elliot, 1999)

9-point scale ranging from 1 (Not at all for this reason) to 9 (Completely for this reason)

The following statements provide explanations or reasons as to why you pursued the goal of generating at least 15 ideas to solve the parking problem on campus. Please rate your reasoning for pursuing this goal based on the following statements:

I pursued the goal of generating at least 15 ideas to solve the parking problem on campus...

1. Because the situation demanded it, or somebody else wanted me to.
2. Because I would feel ashamed, guilty, or anxious if I didn't.
3. Because I really believed it was an important goal to pursue.
4. Because of the fun and enjoyment that pursuing it provided me.

Appendix F

Need Satisfaction Measure (Philippe, Koestner, Beaulieu-Pelletier, & Lecourse, 2011; Sheldon & Filak, 2008; Sheldon & Hilpert, 2012)

5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree)

Thinking about how you felt about the idea generation task, indicate the extent to which you agree with the following statements:

1. I felt capable or skillful during the task
2. I felt that the survey was telling me what I had to do
3. I felt connected to others while completing the task
4. I felt that I had a choice about how I completed the task
5. I felt that I probably generated more ideas than most people would
6. I felt unappreciated by the researchers who made this survey
7. I felt free to do things and to think how I wanted on the task
8. I didn't feel good about the way the study instructed me to complete the task
9. I struggled doing something I should be good at

Appendix G

Demographic and Control Items

1. What is your gender?
 - Male
 - Female

2. What is your year in school?
 - First year
 - Sophomore
 - Junior
 - Senior

3. What means of transportation do you use to travel to and from NC State Campuses?
 - Driving a car
 - Riding in a car with someone else
 - Bike/Skateboard
 - Public Transportation
 - Walk

Distraction and Relevance

Please rate the extent to which you agree with the following statements:

5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree)

1. I was distracted during this task.
2. The problem identified in the task was personally relevant to my life.

Prompt Impressions

Thinking about the task instructions and goal assignment prompts that you read in this study, please indicate the extent to which you agree with the following statements:

I felt that the task instruction and goal assignment prompts were...

3-point scale ranging from 1 (Disagree) to 3(Agree)

1. Friendly
2. Polite
3. Respectful
4. Rude
5. Impolite
6. Sympathetic

- 7. Impersonal
- 8. Mean

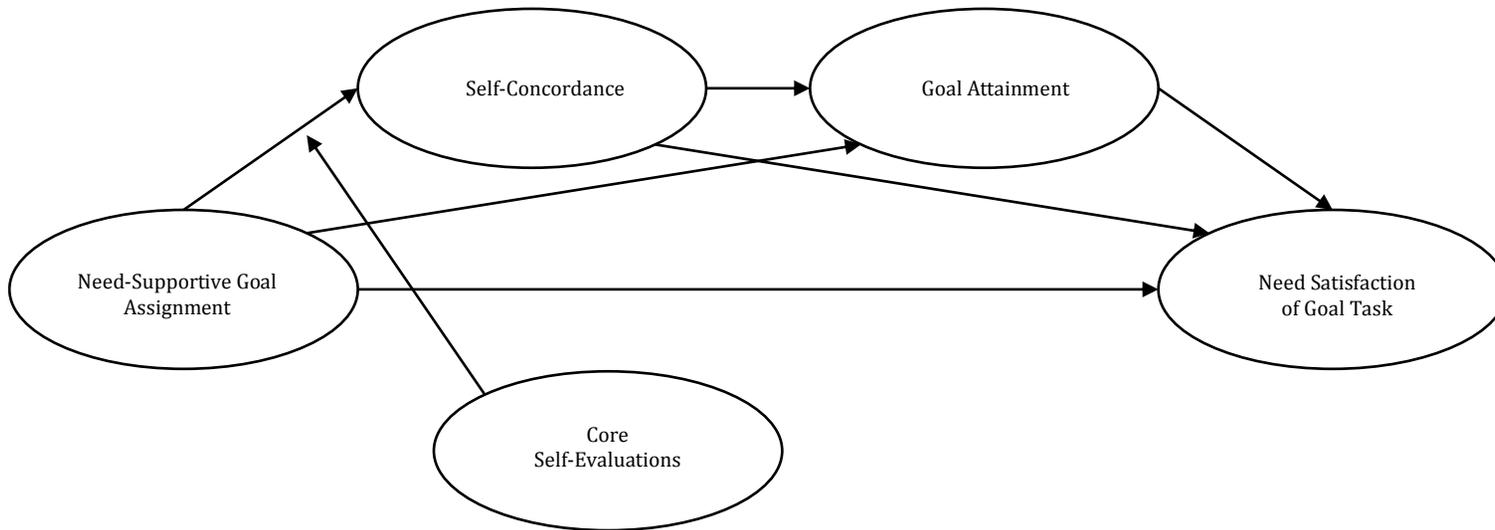


Figure 1. Hypothesized moderated serial mediation model.