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Effects of Goal Training on Goal Structures

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EFFECTS OF GOAL TRAINING ON GOAL STRUCTURES

A Masters Thesis

Presented to

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In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Industrial/Organizational Psychology

By

Charlotte Sophie Redhead

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Psychology

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ABSTRACT

In this study, a goal training intervention was developed and evaluated. The main purpose of this investigation was to provide evidence that training, constructed according to implications drawn from goal theory, can affect student goal setting and achievement. Unique to this investigation was that training targeted both short- and long-term goal setting processes linked to career goal pursuits. Findings indicated that goal training resulted in students' productions of career goal hierarchies consistent with theoretical prescriptions of quality goal structures. This study has implications for those in positions to develop and mentor individuals' pursuit of long-term meaningful goals across settings.

KEYWORDS: goals, goal hierarchies, goal structures, goal training, career choice, career motivation

This abstract is approved as to form and content

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INTRODUCTION

The evolution of organizations into the 21st century has been met with the use of autonomous working arrangements which continue to place an increased amount of responsibility on individual employees (Kanfer, Chen, & Pritchard, 2012). As a result, each employee plays a central role in the structuring of their personal goals. Despite this, managers, career counselors, and advisors find themselves with little empirical research that accounts for goal setting structures that guide employees over time (Kane, Baltes, & Moss, 2001). This current research investigates the role of self-set goals in motivation processes and examines a program design intended to promote quality goal setting.

Goal setting and social cognitive theories proposed self-set goals as central to understanding naturally occurring human motivation (Bandura, 1997; Locke & Latham, 1990). Self-set goals define what people intentionally strive to attain. Bandura (1997) proposed that individuals naturally construct a network of hierarchically arranged goals, which range from goals that motivate immediate action to more abstract long-term career goals. From Banduras (1997) work, implications can be drawn for characterizing the mindset of the elite performer. Despite these implications for naturally constructed goals contained in goal structures, the majority of goal setting theory is based on data collected after the assignment of goals. Rarely has examination been granted to interventions to promote efforts towards the construction of quality goal hierarchies that may contain many interrelated goals set for different time spans of achievement.

Self-regulation refers to the purposeful goal-striving process through which goals are regularly attained and maintained (Day & Unsworth, 2013; Vancouver & Day, 2005).

Since goals are proposed to drive immediate self-regulation, goal theory can provide a strong theoretical base from which to construct intervention (Locke & Latham, 1990). Research in goal properties has identified strategies useful to leadership and management intervention; for example, the well-tested contention that difficult and specific goals improve task performance has commonly been applied to organizational settings (Locke & Latham, 2002; for review see Kanfer et al., 2012). Goal training designed to improve task performance through the assignment of difficult, specific goals can improve organizational performance outcomes (Locke & Latham, 1990). While goal-setting research has typically investigated the effect of task goals on performance, goals at different hierarchical levels in goal-structures have not received comprehensive examination.

This current research developed and evaluated a goal training intervention. The intervention applied tactics that, according to goal theory, benefit short and long-term self-regulation processes linked to career goal pursuits. Principles were drawn from empirical research and theory that pertain to goal pursuits in the short term and over time. The training intervention was designed to promote a logical arrangement of goals in goal hierarchies, clarify and define appropriate goal content, and foster constructive attitudes such as goal commitment and self-efficacy beliefs. In essence, this study tests whether training, constructed according to theory rooted in goal hierarchies, can impact trainees' goal-structures, goal-related attitudes, and outcomes.

Defining Goals Within Hierarchical Structures

Several related terms have been used in the goal literature to describe goals set at different hierarchical levels; therefore, it is important to define the terms used throughout this paper. Masuda, Kane, Shoptaugh and Minor (2010) offered a taxonomy of the goals that reside in goal structures (Figure 1), arguing, "At least three levels of goals exist within goal hierarchies: peak goals, distal goals, and task goals" (p.222).

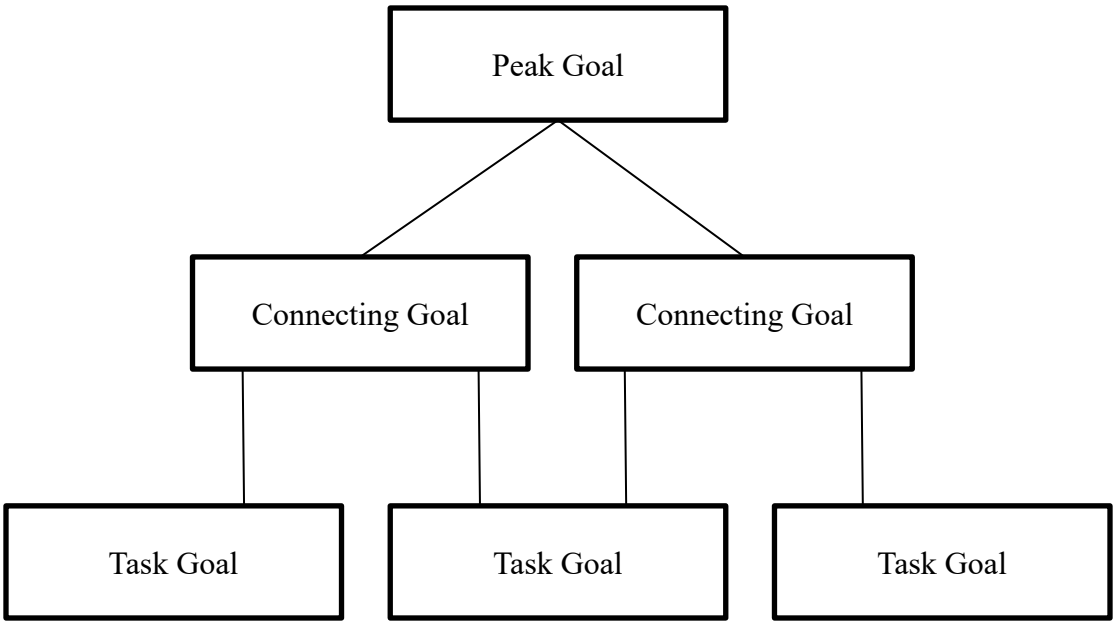

Figure 1. *Masuda et al.'s (2010) depiction of a hierarchical goal structure.*

In this current research, goal hierarchies and goal structures were used interchangeably to reference the collections of goals related to career goal pursuits. The three levels of goals within goal hierarchies were referred to as peak, connecting and task goals. Peak goals are the most abstract and distal goal within a goal hierarchy in a particular life domain (e.g. family, social, occupational). Sitting atop of the goal hierarchy, they provide meaning and structure to goals lower in the hierarchy (Kane,

McKenna, & Redhead, 2017). Goals nested under peak goals are deemed connecting goals which link peak goals to task goals by providing a strategic map. Connecting goals are often a strategic combination of distal and proximal goals that, when accomplished, are perceived by the goal setter to lead to peak goal success. Task goals, positioned at the bottom of the goal hierarchy, drive immediate self-regulated thoughts and behaviors. Task goals are generally relevant for the attainment of connecting goals and eventually peak goals.

The Function of Goals. Once a career peak goal is conceptualized by the goal setter, it activates the construction of connecting and task goals, which drive motivated action (Kanfer et al., 2012). Therefore, understanding the relationships among self-constructed goals nested in goal hierarchies is paramount for understanding self-regulation in its entirety. Many different disciplines have recognized that goals laddered within hierarchies motivate behavior (e.g. Carver & Scheier, 1998; Masuda et al., 2010; Stevens, 1998). The completion or failure of a goal nested in one hierarchical level may simultaneously impact goals at other levels; thus, it is important to understand the interactions of goals across levels.

Career Peak Goals. As previously mentioned, career peak goals provide meaning to subordinate goals in the structure (Kane et al., 2017). An example of a career peak goal might be to become a "Trainer in a fortune 500 company." Once set, peak goals stimulate motivation, self-regulated activity, effort and planning (Bandura, 1997). Peak goals in tandem with connecting goals create one's "personal vision," which provides the goal setter with a map connecting short term accomplishment to long term pursuits (Masuda et al., 2010). The personal vision defines the way one conceptualizes career

outcomes and pursuits. Within the personal vision, peak goals may be more or less specific, difficult, and compelling.

In tandem with specificity, the difficulty at which peak goals are set has implications for immediate self-regulation. In an athletic setting Kane et al. (2001) found evidence that setting specific peak goals for athletic pursuits lead to setting more specific subordinate goals. In addition, goal difficulty was related across levels. This suggested that clarity may be an important consideration in goal structures and serve important functions for self-regulation. This argument is supported by effects found for career goal-setters. A cascading effect found by Kane et al. (2017) supported the contention that goal qualities are logically connected across levels; whereby, the content of peak goals related to the content of more proximal goals, which in turn effected student performance.

The pursuit of peak goals, requires individuals to commit to task goals, which may vary according to their intrinsic value. For career pursuits, unenjoyable task goals may not pose a motivation problem since anticipated satisfaction likely resides in long-term end states defined by higher order goals (Cropanzano, James & Citera, 1993; Locke & Latham, 1990). Higher order goals tend to be linked to salient elements in identities which are values, self-identities, and cultural orientations that form the basis of personality (Cropanzano et al., 1993). However, even these self-identities embedded within personal visions vary within individual's goal sets. Some individuals may not have a clear picture of their peak goal; therefore, striving to attain goals which are not inherently specific or enjoyable may be problematic. If self-identities are salient and valued then higher order goals linked to those should prove to be motivational.

Masuda et al. (2010) introduced the idea that emotion attached to peak goals can differ among goal-setters. This notion is supported by Cropanzano et al. (1993), who suggested that emotion can only be examined as a consequence of each individual's unique goal structure, implying that emotional commitment is an important consideration. Masuda et al. (2010) suggested the emotionally committed goal setters gain more advantages compared to rationally committed goal setters. This contention was supported in freshman career planners whose emotional commitment, not rational commitment, cascaded across goal structures (Kane et al., 2017). As a consequence, goal-setters with a vague peak goal may not experience the self-regulatory advantages that a specific personal vision may bring.

Career Task Goals. Occupying the most proximal position in the goal structure, task goals drive immediate motivated action. Facilitating self-regulation, task goals highlight the discrepancy between one's current and desired performance. The size of the discrepancy, implying a degree of difficulty, drives goal-setters to close the gap in performance (Bandura, 1997). Current state to desired performance discrepancies can characterize higher order goals as well as task goals; ideally, accomplishing task goals helps goal-setters reduce both short and long-term discrepancies. Research has identified certain task goal features associated with effective self-regulation, including goal difficulty and specificity.

Volumes of research support the notion that difficult goals increase motivation and, as a result, performance (Locke & Latham, 2013). Goal difficulty is determined by the amount of time, effort, and resources necessary for goal attainment (Locke & Latham, 1990). Setting difficult, as opposed to easy goals, results in high performance because

goal difficulty stimulates strategic thinking and effort (Wood, Bandura & Bailey, 1990). Even if a difficult goal is not accomplished, it can still serve to increase performance (Austin & Bobko, 1985). In addition to goal difficulty, goal specificity is functional for performance. Specific task goals clarify the discrepancy between goal-setters' current state and desired performance. This allows individuals to self-regulate more efficiently because they can more clearly understand feedback as they know where their performance deficiencies lie (Locke, Chah, Harrison, & Lustgarten, 1989).

Career Connecting Goals. Goal theory has primarily been developed for the examination of task goals. However, effective self-regulation involves the joint functioning of multiple goal structures (Lord, Diefendorff, Schmidt, & Hall, 2010). Few studies have empirically examined the joint effect of multiple goals on self-regulation extending beyond task and peak goals to intermediate goals. Connecting goals are a collection of distal and proximal goals which connect task goals to peak goals. Mervis and Rosch (1981) argued that connecting goals have a dual function. Firstly, connecting goals convey meaning by pairing with peak goals to form the personal vision. Secondly, connecting goals help goal-setters formulate a plan by creating a complete map from one's current to future state as defined by superordinate goals.

Connecting goals are "working goals" (Klein, Austin, & Cooper, 2008), providing a basis from which people can plan to obtain peak goals. If connecting goals are not complete; or the goal-setter doesn't have adequate knowledge, then peak goal attainment may be impeded. For example, becoming a successful doctor requires not only obtaining a medical degree but also, critical thinking skills, active listening, adequate written and oral communication, and other skills. Therefore, in the context of goal structures, setting

a wide breadth of relevant goals rather than a narrow range may be more functional for advancing toward peak goal accomplishment. A wide breadth of relevant connecting goals implies completeness in goal structures and may assist individuals in doing all that is required to accomplish all they desire in their careers.

In addition to being complete, breadth also implies a degree of goal difficulty. For example, it is reasonable to infer that those who pursue a wide range of goals engage in more tasks and therefore expend more personal resources.

It has been argued that embedded within higher order goals are personal values, which guide our cognition and action. Cropanzano et al. (1993) stated goals are enacted upon as a means of achieving personal values, with higher order goals attached to self-identities while the content of connecting goals lies somewhere in between self-identities and concrete task goals. However, it is possible that connecting goals could be linked to a person's identity independent of higher order or peak goals. For instance, a connecting goal of graduating from university or completing a relevant internship could be meaningful unto itself if it is linked to salient aspects of the self-concept, such as competence or being an educated person. Conversely, some connecting goals may not be meaningful in their own right. Establishing personal meaning from connecting goals which have no relevance to the goal-setter's career choice becomes problematic, e.g. completing a graduate entry exam or passing a statistics class solely for a degree requirement. In summation, connecting goals are meaningful to the extent that the goal setter has organized them in order to achieve a higher order goal, thus, motivation can cascade across goal hierarchies (Kane et al., 2017).

Cascading effects describe the association of goal content and attitudes across levels of goal hierarchies (Kane et al, 2017). Cascading effects have been found for affective commitment, goal difficulty and self-efficacy. Affective career goal commitment related positively to constructive attitudes for proximal achievement (Kane et al., 2017). Likewise, students who believed that career goals required high levels of academic achievement reported more difficult academic semester goals (Kane et al., 2017). This connectedness of goals across the hierarchy demonstrates the importance of cascading effects. Goals must cascade across levels if higher order goals are to impact more immediate self-regulation. Studies have demonstrated the importance of connecting goals for self-regulation in both career and sport settings (see: Kane et al., 2001; Kane et al., 2017).

Prior research has suggested cascading effects occur downwards, with higher order goals providing meaning to subordinate goals. With this being said, aforementioned features of a logically arranged goal hierarchy suggest that cascading effects could happen upwards; being thwarted or progressing towards connecting goals may have long-term consequences. In accordance with this, goal theory suggests that the goal-setter is driven by both the valued future accomplishment of distal goals as well as accomplishing relevant task goals (Locke & Latham, 2002). Therefore, if connecting goals are knowledgeably set at the correct level, upon success at meeting a goal, a participant will revise a future goal upwards. However, if goals are not set at an attainable standard, both control theory and goal theory would suggest that a goal-setter would revise a goal downward (Carver & Scheier, 1981; Locke & Latham, 2002).

Attitudinal Elements of Goals. In addition to goal content, the attitudinal elements of goals, such as commitment and self-efficacy, can be examined in regard to self-regulation. Goal commitment involves a psychological attachment to goals, and an unwillingness to lower effort to attaining them (Klein, Wesson, Hollenbeck, & Alge, 1999). Goal commitment is functional for self-regulation, as in the absence of goal commitment, setting difficult goals will not affect performance (Locke & Latham, 1988; Locke, Latham & Erez, 1988). Sources of goal commitment include attainability and personal ownership.

Attainability relates to goal commitment as goal commitment declines as goals become increasingly difficult (Erez & Zidon, 1984). Locke and Latham (1990;1991) proposed that goal difficultly and task performance share a curvilinear relationship, in which progressively difficult goals produce relative increases in performance. However, when a goal is perceived as unattainable, commitment diminishes, and performance is reduced (Klein, Wesson, Hollenbeck & Alge, 1999). Therefore, the presence of goal commitment moderates the effect of goal difficulty on outcomes.

Personal ownership of goals is another source of commitment which accounts for the difference in effectiveness between assigned and self-set goals. Active participation in the goal setting process makes goals more salient to individuals as, in part, they own the goals (Locke & Latham, 2002). As follows, when goal-setters set their own goals goal commitment should be strong, thereby enhancing the chance that a challenging goal will produce positive outcomes.

Little attention has been granted to goal-setters' commitment to higher order goals in the structures. The study of Masuda et al. (2010) implies emotion is relevant to

commitment for distal goals. While goal setting research has not studied emotional attachment to goals, Meyer and Allen (1991) studied emotional attachments to organizations which may apply to goal settings. Meyer and Allen (1991) distinguished between emotional and rational reasons for commitment to organizations. Emotional, or affective commitment, involves an attachment rooted in an individual's intrinsic desires. Whereas rational commitment refers to commitment based in the extrinsic rewards, feelings of responsibility, and existing investments made (Klein et al., 2009). Kane et al. (2017) added an affective/rational distinction to career goals among college freshman. They found that affective career goal commitment, rather than rational, related positively to students' proximal goal commitment and self-efficacy. This evidence suggests that cascading effects are more rooted in happiness and meaning, rather than status and material gains, and may also possess better aligned attitudes to goals throughout the goal structure.

Self-efficacy beliefs have been studied across levels and shown to have direct implications for effort, strategic thinking, and the types of goals set by individuals across the goal hierarchy (Bandura, 1997; Kane, Zaccaro, Tremble, & Masuda, 2002). Self-efficacy involves "people's beliefs in their capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives" (Wood & Bandura, 1989, p. 364). Those who possess high self-efficacy are more likely to set challenging goals and commit to those goals (Early & Lituchy, 1991; Locke & Latham, 2002). Kane et al. (2017) discovered that self-efficacy beliefs cascade across levels within the goal hierarchy.

Given that satisfaction resides in long-term end states, the logical goal planning process may increase or decrease self-efficacy. Bandura (1997) identified several sources of self-efficacy including prior performance, emotional arousal, vicarious experience and verbal persuasion. Reasonably, the nature of goal structures may be relevant to self-efficacy to the extent that goal-setters believe that their structures are complete and relevant. Salient and clear outcomes will convey more efficacy information than do actions that remain ambiguous (Bandura, 1997). A goal-setter with a clear logical plan linking task goal accomplishment and peak goals may experience higher self-efficacy due to an increased perceived control. Individuals lacking a complete career map may experience less control over their peak goals, and therefore, self-efficacy could diminish.

Once strong or weak efficacy expectations are established, they may generalize to other situations (Bandura, 1997). Kane et al. (2017) found support for this contention with goal attitudes, including self-efficacy, aligning across levels in the goal hierarchy. Since self-efficacy beliefs have large consequences, it is vital that tutoring in the career planning process is strategically designed to develop self-efficacy.

Goal Structure Training

Training designed to promote optimal goal structures should be based on theory pertinent to the functionality of goals at different hierarchical levels. In addition, training should also promote attitudes that foster effective self-regulation.

Training Peak Goals. Peak goals stimulate direction and provide meaning to subordinate goals in the goal structure. Optimal goal training should focus on the challenge inherent in trainees' goal structures, pushing goal-setters to consider how

effective they will be in a position rather than simply attaining it. In addition, optimal goal training deigned to promote effective peak goals should consider relevant goal attitudes such as commitment and self-efficacy.

In order to encourage the setting of optimally challenging goals, trainees should be encouraged to think about goals which are optimistic, yet realistic. If peak goals are too challenging, commitment will suffer, and performance can diminish. A challenging peak goal increases the discrepancy between a goalsetter's current and future state, which goal-setters are driven to reduce (Masuda et al., 2010). Challenging peak goals also stimulate the setting of challenging proximal goals and therefore will need to be as specific as possible.

Training based on producing a meaningful personal vision should ensure that goals represent intrinsic values and interests, rather than extrinsic gains such as prestige, money or status. Affective commitment involves perceiving purpose, meaning, and satisfaction from peak goal attainment. Goal-setters who are affectively, rather than rationally, committed to peak goals may experience additional benefits in proximal achievement (Kane et al., 2017).

Finally, with respect to peak goals, optimal training would consider efforts to build strong self-efficacy beliefs. Researchers across disciplines have noted the importance strong self-efficacy beliefs and their potentiating function in goal challenge, commitment and persistence (Bandura, 1997; Early & Lituchy, 1991).

Training Connecting Goals. Based on the purpose of connecting goals, optimal connecting goals would be well defined and logically linked to both peak goals and task goals. Connecting goals provide the structure to task goals and therefore should be

specific and have a high degree of breadth. As previously mentioned, in the context of goal training, setting a wide breadth of relevant goals rather than a narrow range may be more functional for advancing toward peak goal accomplishment. A wide breadth of relevant connecting goals implies completeness in goal structures and may assist individuals in doing all that is required to accomplish all they desire in their careers. A high degree of connecting goal breadth would suggest that all relevant behaviors and activities to satisfy peak goals are included within the structure.

Optimal goal training could ask goal-setters to identify and produce goal maps. By consciously linking subordinate goals to superordinate goals, goal maps could assist trainees in envisioning and clarifying the universe of tasks relevant for obtaining peak goals.

Training Task Goals. The primary function of task goals is to provide the goal-setter feedback regarding goal failure or accomplishment. Therefore, optimal task goal training would promote commitment to specific, difficult, yet realistic, goals.

Optimal training should seek to increase task goal difficulty which can be operationalized in different ways. While it is common to think about goal difficulty within a goal, perhaps goal difficulty could be considered across goals. It may be that encouraging individuals to set a range of task goals implies goal difficulty, as goal-setters are considering a wide range of tasks and could be challenging themselves. In addition, optimal goal training should be successful in impacting task goal difficulty if it leads trainees to consider the setting of more challenging connecting goals. If more challenging connecting goals are set, cascading effects would suggest that goal difficulty would have a domino effect across the goal hierarchy (Kane et al., 2017).

Hypotheses

In this current study, participants were randomly assigned into one of three groups. Group one received the goal training, wrote down their goals (peak, connecting, task), and completed a questionnaire regarding goal attitudes. Group two wrote down their goals and completed the questionnaire. Finally, group three only completed the questionnaire.

For the two groups that wrote down goals (group one and two) differences were expected with respects to goal structures, as detailed in hypotheses 1-3. In order to examine whether training impacted goal attitudes, and not simply the act of writing down one's goals, group three was added for comparison. Differences were expected among the three groups with respect to goal related attitudes, as detailed in hypothesis 4.

Hypothesis 1. Peak goal difficulty will be higher for trained versus untrained participants.

Hypothesis 2a. Goal breadth will be higher for trained versus untrained participants.

Hypothesis 2b. Trained participants will report more goals versus untrained participants.

Hypothesis 3. Task goal difficulty will be higher for trained versus untrained participants.

Hypothesis 4a. Commitment associated with goals and goal structures will be stronger for trained versus untrained participants.

Hypothesis 4b. Self-efficacy associated with goals and goal structures will be stronger for trained versus untrained participants.

Hypothesis 5. Academic performance will be higher for trained students than for untrained.

METHODS

Participants

One hundred and thirty-nine college students, recruited from various psychology courses, completed the time one study measure for course credit during the first month of the spring semester at a large Midwest university. Initially, 139 individuals completed the study. After data cleaning (described below) 131 participants, 43 men, 87 women, with one participant choosing not to identify, remained after removing students not between the ages of 18 to 26. The breakdown of class year included: 68% freshman, 8% sophomore, 12% junior and 12% senior.

Measures

Demographics. Students' reported intended academic majors, age, gender and class year. Both self-reported ACT and high school GPA were two variables reported in the study questionnaire used to assess academic aptitude. Students reported university ID numbers so that end of semester performance could be collected from University databases. Academic and background data accessed from University databases were obtained after gaining students' written permission.

Semester Goal Difficulty. Students responded to two questions about their semester GPA goal: 1) "My realistic GPA GOAL this semester is;" and 2) "My Minimum GPA that I will accept achieving this semester is:" The second question was posed to reduce ceiling effects to response bias. Responses to the two questions were correlated ($r = .83$, $p<.001$).

Career Goal Difficulty (CG). To report career goals, participants responded to the prompt, "List your most important career goal below, if you have not settled on a particular occupation at this time, think about aspects of a future career that you desire to attain" in space provided on the questionnaire. Two evaluations of career goal difficulty were made. The first involved three trained raters. Raters were requested to review each career goal set and then evaluated the extent to which high levels of academic achievement are related to attainment of the goals: (1) not required (2) questionably relevant (3) relevant (4) highly relevant (5) required. In training, raters evaluated several reported career goals collected from the study, discussed variations in ratings, and came to consensus on sources of disagreement. In goals that were vague where a range of possible levels of academic achievement were possible, the lowest level of achievement was used as the standard for criteria. Each rater then evaluated each goal set by participants in this current study. Ratings were averaged to form the CG difficulty variable. The intraclass correlation computed to evaluate rater reliability was adequate ($R = .93$).

The second measure of CG difficulty involved participants own perceived judgements of the relevance of the high levels of academic achievement for attaining their most important CG on a five-item scale (e.g., Whether or not I do well as an undergraduate in college, I can still reach my career goal; I will have to do very well in college to attain my career goal). Response options ranging from 1 (extremely strongly disagree) to 7 (extremely strongly agree). Scale reliability was $\alpha = .72$.

Connecting Goal Breadth. To report career goals, participants responded to the prompt, "List all the goals that you need to accomplish in order to achieve your career

goal." in space provided on the questionnaire. The rating involved two trained raters. Raters were requested to review the connecting goals set and then evaluate the total number of connecting goals set and the total number of categories they were set in. Categories included: undergraduate academic, post graduate academic, career building, occupational definition and pursuits, knowledge and skill development, extrinsic job goals, intrinsic job goals and extra life goals. Ratings were averaged to form a connecting goal total variable and a connecting goal breadth variable. Reliability for both the connecting goal total ($\alpha = .93$) and connecting goal breadth ($\alpha = .86$) were good.

Semester Goal Commitment. Students wrote their most important semester goal at the beginning of the semester. Using that goal to frame subsequent judgments, they reported goal commitment to the prompt, "Answer the following questions with respect to your most important semester goal." Hollenbeck, Williams, and Klein's (1989) goal commitment scale was modified to assess student goal commitment to their semester goal (e.g. Sample items are, "It is somewhat hard to take my semester goal seriously" and "I am willing to put forth a great deal of effort beyond what typical college students do to achieve this goal"). Response options ranged from (1) Strongly Disagree to (5) Strongly Agree. Scale reliability was $\alpha = .83$

Academic Self-Efficacy. Wood and Locke's (1987) seven-item academic self-efficacy scale was used. Students reported confidence to execute a variety of strategies related to academic success on a scale that ranged from 1 (extremely below average) to 5 (extremely above average) (e.g. Sample items are, "How well do you concentrate and stay fully focused on the materials being presented?" and "How well do you memorize facts and concepts covered in class?"). Scale reliability was $\alpha = .75$.

Career Goal Commitment. CG commitment measures were modeled after Penley and Gould's (1988) and Meyer, Allen, and Smith's (1993) measures of organizational commitment. Six items assessed affective commitment (e.g., "My career goal is perfect for me" and "attaining my career goal will make me proud of myself"). Six items combined to form the rational commitment scale evaluated *sunk costs* (e.g., "It would be too costly for me to change my career goal at this point in my life") and calculative commitment (e.g., "Attaining my career goal is financially important to me"). Individually the scales were not adequate. Therefore, the combined reliability for both the affective career commitment scale and rational career commitment scale (α = .74) were acceptable.

Career Goal Self-Efficacy. Self-efficacy was evaluated in two ways. First, students reported career goal self-efficacy on six questions that referred to their stated most important career goal (e.g., How much confidence do you have in your academic ability to reach this goal?). Response options ranged from (1) no confidence to (6) complete confidence. Scale reliability was α = .84

The second measure was Kane et al. (2017) ten-item career self-efficacy scale. Participants made judgments of confidence, ranging from (1) no confidence to (7) complete confidence, for making progress toward and accomplishing their goals (e.g., I will attain my career goal in the time span that I envision attaining it, I will become known as exceptional at what I do in my chosen career goal, and I will make progress toward attaining my career goal this semester). Scale reliability was α = .86

Most Important Task Goal Difficulty. To report task goals, participants responded to the prompt, "List your MOST IMPORTANT short-term goal that you set to

accomplish by the end of the semester (One goal)." Three raters met three times in order to be trained to rate goal difficulty for semester goals. Using a norm-referenced approach, raters applied a 7-point rating scale (Kane et al., 2017) ranging from 1) "This goal is easily attained by anyone; even those who have below average ability" to 7) "This goal is extremely difficult to achieve even for a student who possess high ability and works hard". In training, raters evaluated several reported career goals collected from the study, discussed variations in ratings, and came to consensus on sources of disagreement. In goals that were vague where a range of possible levels of academic achievement were possible, the lowest level of achievement was used as the standard for criteria. In the second meeting, raters rated a practice set of 116 goals independently and discussed agreement. In the third and final meeting, raters evaluated the most important goal determined by raters. Most important goal difficulty was computed by taking the average of those ratings. Rater reliability was $\alpha = .97$.

Average Difficulty of All Task Goals. Students responded to two questions about their semester goals: 1) "List your MOST IMPORTANT short-term goal that you set to accomplish by the end of the semester." and 2) "List other important academic or professional goals you want to accomplish this semester." Students responded a range of one to eight goals. The rater average for each goal was recorded. Average goal difficulty across all semester goals was reported for each student. Rater reliability was $\alpha = .90$.

Total Number of Goals. The total number of semester and connecting goals listed by students was summed to compute the total number of goals.

Semester Performance. Student's semester GPA attained at the end of the semester and student's cumulative GPA was recorded from the University database.

PROCEDURES

Procedure were approved by University Human Subjects Review (16-0247, 1/6/2016). Participants were randomly assigned into one of three conditions. Group one received the goal training, wrote down their goals, and completed a questionnaire; group two wrote down their goals and completed the questionnaire; and the control group only completed a questionnaire. Random block assignment was used. After the first condition to be run was selected (i.e. by rolling a die) the other conditions were run in succession. A single condition was run consecutively until the total participants equaled or surpassed the prior group size.

All participants were run within the first 7 weeks of spring semester, 2017. The three conditions differed in their duration. The training condition took a duration of fifty minutes. The group that only set goals and was not trained took approximately thirty-five minutes. Finally, the group that only took the goal questionnaire took a duration of twenty minutes. At the end of the GPA was collected from academic databases.

During the study, twenty sessions were run with the participants in groups of 1-28. Students signed up for a particular study time using an online research participation system. If participants arrived after a study had commenced, they were run immediately after the group was ran (which accounts for the small group size continuum). For all groups participants first read and signed informed consent forms (Appendix A). After consent forms were signed, the experimental groups received training. Aside from this training, both the experimental groups and goal only condition completed a goal setting form where they reported peak, connecting and task goals (Appendix B). Then these two

groups completed the questionnaire to report goal related attitudes. The control condition only completed the questionnaire reporting goal related attitudes.

The training was developed based on principles of goal setting to set optimal peak, connecting and task goals. A PowerPoint presentation was used (Appendix C) in addition to narration provided by the trainer, which is summarized below.

Goal Hierarchies. In order to give participants a baseline understanding of what goals are and how they work, they were first read the following passage:

A goal is an object or aim of an action. For example, in sports it could be level of performance to be attained. Goals focus our attention to goal related activities and help us avoid unrelated goal actions. They make us try harder, depending on how difficult they are. They also impact our persistence, because if we are committed we will keep going until the goal is obtained. Goals are the primary source of an individual's motivation and drive all intentional behavior.

In order to introduce the idea of goal structures, figure 1 was presented:

Here are the three levels of goals within goal structures. At the top of the goal structure is your most important career goal or your vision. Underneath your vision is your connecting goals which act as a map, connecting what you are doing today to your vision. At the bottom of the goal structure, task goals help connect your day-to-day actions to your vision.

Participants were then engaged in a goal-mapping exercise. In order to emphasize the idea that goal structures can vary in terms of logic, completeness, and complexity, participants were presented with both a complete and an incomplete goal structure. At the conclusion of training, participants were referred back to the complete goal structure

and asked to create their own visual goal hierarchy by writing out their peak, connecting, and task goals to form a goal structure on a blank piece of paper. Each goal structure then was scanned and emailed to each individual one week before the commencement of advising. In the email it was suggested that their goal hierarchy may be a useful tool for upcoming academic advisement.

Career Peak Goals. Peak goals were referred to in training as most important career goals in an effort to target the goal hierarchy towards the career domain. Training focused on crafting a challenging personal vision with strong attitudinal elements of goals attached (commitment and self-efficacy). It is important to note that, due to the close relationship of efficacy and commitment, strategies to build commitment could also build self-efficacy and visa-versa.

To address challenge, we encouraged the goal-setter to consider: why it was challenging and whether it stretched them. In order to target self-efficacy, we encouraged the goal-setter to think about a complete personal vision. To address completeness, it was suggested to the participants that, although the nature of career goals makes them inherently unspecific, they should try to make them as specific as possible by thinking about whether they:

Want to help people, make a meaningful impact on society, establish themselves as highly capable, be proud of themselves, enjoy going to work every day or allow time for what is important.

Participants were then asked to write down their most important career goal. For individuals without a specific career choice in mind, trainers set the foundations from

which affective commitment and challenge can grow. They encouraged these goal setters to think about the qualities of a future career they would desire.

In order to further inspire the setting of meaningful, personal goals, the next element of training was commitment. In particular emotional commitment was emphasized because of the benefits to short term motivation (Meyer & Allen, 1993). To accomplish this the goal-setters were read the following italicized passage, then wrote three reasons about why their goal was valuable to them.

Envision what it means to be successful. What are the potential rewards to you? What impact would accomplishing this goal have on the people you care about (current and future)? What impact would it have on others in the field and in society?

Connecting Goals. Training for connecting goals focused on breadth and logical alignment with respect to obtaining peak goals. To train connecting goals for breadth, the importance of thinking beyond qualifications and job experience was emphasized so as to highlight other factors such as building connections and developing skills. In addition to increased breadth, connecting goals should be challenging and logically linked to the rest of the goal hierarchy. In order to address these components of connecting goals the goal-setters were given an opportunity to write down their goals in a goal structure, thereby ensuring goals were logically linked to one another.

The logical alignment of goals in the goal hierarchy is assisted by setting specific connecting goals. If connecting goals are as specific as possible it will help to facilitate the setting of relevant task goals. Connecting goals which are well defined and knowledgably set at the and at the appropriate level will translate to better quality of goals at other hierarchical levels. Goal-setters were read the following passage:

Connecting goals should be specific and hold you accountable. For instance, consider you want to become a better leader. Will you read a book on leadership or practice a leadership tactic every day? In addition, connecting goals need to be relevant and based on good information. If you do not have all the relevant knowledge can you speak to your academic advisor, or someone closely related to the field to gain the information?

Participants were then asked to list out their connecting goals following the prompt*: List all the goals that you need to accomplish in order to achieve your career goal.*

Task Goals. Task goal training addressed specificity and challenge as key components. First the importance of specificity and challenge were explained. Next, it was emphasized that for goals without clear outcomes, it is functional to outline the behaviors that satisfy goal attainment. Training these components was achieved by providing examples to illustrate the difference between specific goals and unspecific goals. Rather than setting task goals such as "*Try my hardest in class*" or "*Keep a high GPA*" which are non-specific, goal-setters were encouraged to set goals such as *"Have perfect attendance to class, pay full attention and take good notes. Do all assigned readings and extra credit opportunities"* and *"Raise my GPA above 3.2 this semester".* To train challenge it was emphasized to the goal setters that the more specific and challenging task goals are, the more likely they are to drive effort.

Participants were then asked to write their most important task goal and all other task goals, following the prompts: *a) List your most important short term goal that you set to accomplish by the end of the semester (one goal), b) List other important academic or professional goals you want to accomplish this semester.*

RESULTS

Analyses were computed using the Statistical Package for the Social Sciences (SPSS) version 20.0.0. Data were screened for multivariate assumptions (normality, linearity, homogeneity, and homoscedasticity), and all assumptions were met. Table 1 shows the descriptive information of all variables used in analyses, along with relevant Cronbach's alpha reliability estimates for scales and intra-class correlation coefficients for ratings of goals.

Table 1. *Descriptive Statistics*

Variable	*N*	Range	*M*	SD	α
Gender	130		1.33	.47	
Academic Aptitude (ACT)	120	14-32	24.27	3.81	
HS GPA	126	2.00-4.80	3.61	.47	
Semester GPA Goal Min	129	1.90-4.00	3.27	.45	
Semester Goal Commitment	131	2.38-5.25	4.34	.52	.83
Academic Self-Efficacy	131	1.71-4.71	3.48	.50	.75
CG Difficulty	86	1.0-5.0	2.92	1.1	.93
CG Commitment	131	2.85-4.92	3.90	.44	.74
Career Self-Efficacy	131	2.0-6.0	4.34	.76	.86
CG Self-Efficacy	131	2.33-6.0	4.56	.78	.84
Self-Rated CG Difficulty	131	1.60-5.0	3.75	.72	.72
Connecting Goal Breadth	86	1.0-6.5	3.74	1.06	.86
Goal Total	86	4.5-24.0	11.51	3.42	.93
Most Difficult Task Goal	86	2.67-7.0	5.74	1.16	.97
Av. Difficulty of Task Goals	89	1.75-6.04	3.48	.79	.90
Semester GPA	128	.85-4.00	3.12	.79	

Bivariate Correlations

A large portion of the correlations, shown Table 2 were as expected. In terms of academic aptitude, both self-reported ACT score (*M*= 24.27, *SD* = 3.81) and high school GPA (*M*= 3.61, *SD* = .47) were positively correlated with each other (*r*=.35), semester GPA goal minimum (*r*=.36, *r*=.50), academic self-efficacy (*r*=.34, *r*=.25), and semester GPA attained (*r*=.41, *r*=.39), respectively. However, independent of ACT score, high school GPA was positively correlated with both self-rated (*r*=.38), and norm rated (*r*=.35) career goal difficulty demonstrating that stronger students tended to set more difficult career goals, in terms of academic achievement required.

In terms of attitudes, academic self-efficacy, career self-efficacy and career goal self-efficacy positively correlated with semester GPA goal minimum (*r*=.40, *r*=.20, *r*=.20), and semester goal commitment (*r*=.32, *r*=.49, *r*=.53), respectively. Expectedly, academic self-efficacy also positively correlated with academic aptitude (*r*=.34) and high school GPA (*r*=.25); whereas, career self-efficacy correlated positively with career goal commitment (*r*=.36). This demonstrated that self-efficacy rooted in different facets vary in their relationships with other variables and outcomes. As expected, academic self-efficacy related more heavily to academic pursuits than did career self-efficacy.

Table 2. *Correlation Table*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender															
2. Academic Aptitude	.07														
3. HS GPA	-.11	.35*													
4. Sem Goal Diff	-.20*	.36*	.50*												
5. Sem Goal Commitment	-.01	.09	.15	.31*											
6. Academic Self-Efficacy	.04	.34*	.25*	.40*	.32*										
7. CG Diff	-.19	-.01	.35*	.42*	.16	.12									
8. CG Commitment	-.10	-.13	-.03	.09	.27*	.02	.02								
9. Career Self-Efficacy	.05	-.02	-.08	.20*	.49*	.37*	-.08	.36*							
10. CG Self-Efficacy	.03	.03	-.09	.20*	.53*	.35*	-.03	.32*	.83*						
11. Self-rated CG Diff	-.17	.15	.38*	.45*	.26*	.26*	.40*	.31*	.13	.15					
12. Goal Breadth	-.17	.05	.06	-.04	-.06	-.12	.16	-.00	.01	.06	.03				
13. Goal Total	-.40*	.04	.20	.14	.03	.02	.13	.03	-.08	.06	.17	.56*			
14. Most Diff Sem Goal	-.26*	.23*	.34*	.43*	.23*	.21	.21*	-.09	-.01	.04	.25*	.03	.21		
15. Ave. Diff of Sem Goals	.26*	.34*	.48*	.60*	.32*	.39*	.19	-.15	.01	.03	.38*	-.03	.19	.75*	
16. Semester GPA	-.24*	.41*	.39*	.54*	.11	.15	.20	-.01	-.04	.03	.32*	.10	.26*	.43*	.42*

Hypothesis Testing

Hypothesis 1. Hypothesis 1 stated that peak goal difficulty will be significantly higher for those who received goal training. As seen, on average, participants given the training set more difficult career goals ($M = 3.30$, $SD = 1.09$), than those not given the training ($M = 2.62$, $SD = 1.01$). This difference was significant $t(84) = 3.00$, $p < .05$; in addition, it represented a medium-sized effect $d = .65$.

Hypothesis 2. Hypothesis 2a stated that breadth of connecting goals will be significantly greater for those who received goal training. On average, participants given the training had higher breadth of connecting goals ($M = 4.12$, $SD = .93$), than those not given the training ($M = 3.45$, $SD = 1.07$). This difference was significant $t(84) = 3.05$, $p < .05$; in addition it represented a medium-sized effect $d = .67$. Hypothesis 2b stated that the trained group will set more overall connecting goals. On average, participants given the training ($M = 12.64$, $SD = 3.67$), set a higher total number of overall goals reported in goal hierarchies than those not given training ($M = 10.61$, $SD = 2.94$). This number was operationalized by the number of connecting and task goals set. This difference was significant $t(84) = 2.84$, $p < .05$; in addition, it represented a medium-sized effect $d = .61$.

Hypothesis 3. Hypothesis 3 stated that those trained would set a more challenging, most important task goal than those untrained. Goal difficulty was operationalized in three ways: most important career goal difficulty, average difficulty for all task goals and total number of task goals set. On average, participants given training set a more challenging most important task goal ($M = 5.24$, $SD = 1.65$), than those not given training ($M = 5.04$, $SD = 1.80$). This difference was not significant $t(84) = .50$, p =

.61. On average, participants given training set a higher average difficulty of all task goals (M = 3.60, SD = .67), than those not given training (M = 3.44, SD = .88). This difference was not significant $t(84) = .19$, p = .34. On average, participants given training set a higher number of task goals (M = 4.39, SD = 1.55), than those not given training (M = 3.94, SD = 1.44). This difference was not significant $t(84) = .21$, p = .17.

Hypothesis 4. A one-way ANOVA was conducted to determine whether mean differences in semester goal commitment, academic self-efficacy, career goal commitment, career self-efficacy and career goal self-efficacy were statistically significant between the three different groups. As seen, students in different groups did not significantly differ in reports of semester goal commitment ($F(2, 128) = .51$, p =.60), academic self-efficacy ($F(2, 128) = .18$, p =.84), career goal commitment ($F(2, 128) = 1.60$, p =.21), career self-efficacy ($F(2, 128) = 1.22$, p =.30), and career goal self-efficacy ($F(2, 128) = 1.50$, p =.23).

Hypothesis 5. A one-way ANOVA was conducted to determine whether mean differences in GPA perf were statistically different between the three trained groups. As seen, students in different groups did not significantly differ in terms of semester GPA ($F(2, 125) = .63$, p =.54).

DISCUSSION

In this study, a goal training intervention was developed and evaluated. The main purpose of this investigation was to provide evidence that training, constructed according to the logical, connected goal systems that Bandura (1997) argued exist, impacted the short and long-term self-regulation processes linked to career goal pursuits. The fundamental questions, therefore, were whether goal training effected trainees' goal structures, attitudes, and outcomes. The first outcome found that training did impact trainees' goal structures. Secondly, training failed to demonstrate a significant impact on attitudinal elements of goals and semester GPA results.

Our research contributed to the study and practical application of career goals and self-regulation. Our methods allowed us to test principles drawn from empirical research and theory that pertain to goal pursuits in the short term and over time to promote a logical arrangement of goals in goal hierarchies.

The goal training intervention significantly impacted goal content for both peak and connecting goals. Students who received training set peak goals at a higher degree of academic difficulty than those who did not receive training. Conceptually, more challenging peak goals leads to more challenging subordinate goals (Kane et al., 2017), the development of strategies (Bandura, 1997), and efforts put forth in goal attainment (Masuda et al., 2010). In this study challenge inherent in peak goals associated with more challenging semester goals, correlating with semester GPA minimum, r=.42. This provides evidence in support of Bandura's (1997) contention that individuals construct interconnected systems of hierarchically arranged goals.

In addition, challenge inherent in peak goals associated with the total number of goals set, r=.21. The increased number of subordinate goals set supports another one of Bandura's (1997) contention's that challenging peak goals stimulate the development of strategies.

In addition to a higher degree of peak goal difficulty, those who received training thought about a wider breadth of connecting goals and set a higher number of overall goals (connecting and task**)**. This overall completeness and breadth in goal structures suggests that trainees are considering a universe of tasks relevant to obtaining their career goals. In the framework of goal structures, a high degree of complexity may suggest that individuals are spending an increased amount of time thinking strategically about progressing in their careers. However, perhaps completeness isn't always functional. If core goals are already salient and firmly conceptualized in the mindset of the goal-setter, attempts to increase completeness shouldn't always be a priority. Instead, perhaps attention should be directed towards improving the quality of an individual's salient goals.

The goal training intervention failed to demonstrate a significant impact on the difficulty of tasks goals and the strength of goal related attitudes. A lack of apparent attitude change may have been a result of the goal training intervention effecting participants in unique ways. While some participants may have found the goal training useful in order to envision their career, for others, the logical career planning process may have been overwhelming. The training may have caused trainees to realize goal attainment was unlikely by revealing more elements in the goal structures that they previously thought existed. In this vein, having a sudden realization of how much effort

is required to attain your career goal may lower self-efficacy. Therefore, feasibly, more than an hour exposure to goal training is needed to foster constructive attitudes. Longer goal training programs could better assist in clarifying and defining appropriate goal content, in addition to, confidence building by continuously managing how trainees perceive their performance. Since constant goal revision could occur during the course of the semester, a longer duration of goal training may be better equipped to strengthen self-efficacy. This could be achieved by recognizing minor successes and providing goal hierarchies of successful models.

Applications

Our data provides support that training based on the logical arrangement of goal hierarchies can impact the goal structures of individuals. This notion has important implications for aiding those who are in positions to mentor, advise or develop others across settings. In addition, understanding how interventions can impact the quality of goals may have implications for understanding how to develop elite performers.

Although long term effects of training were not realized, with semester GPA being unaffected by goal training. An increased practical understanding of how to impact trainees' goal structures and quality of goals could lead to increased goal attainment. Providing trainees with a practical framework for logically thinking about their career planning process, encouraging them to write their goals down, and eventually, discuss them with their academic advisor, may cause goals to become a source of: education, encouragement, revision and success.

Limitations

This study is not without its limitations. One limitation of this study was the lack of an observed relationship between training and goal attitudes. The way that the questionnaire was constructed (see Appendix B) meant that participants reported goals and attitudinal elements of goals independently of one another. By separating goal content and attitudes, participants may have had difficulty in connecting them. We propose this disassociation as one potential explanation for why training failed to demonstrate a change in attitudes.

Although the training effected goal content, and logically, the way that goal-setters have conceptualized their own goals, perhaps trainees did not have enough time to factor the newly revised goals into their efficacy beliefs. Although trainees set a higher number of goals, goal related attitudes were not impacted. One explanation for this result could be that additional goals are both difficult to conceive and to attend to. While an additional goal of "making connections" could be useful for peak goal attainment, the nature of the educational feedback system does not necessarily support goals outside of semester GPA. As such, confidence may be anchored into feedback associated with relevant GPA outcomes rather than an hour of training.

If quality advisement is already occurring with career counselors building commitment to goals, then the goal training will have less of an impact on attitudes. Career counselling from a mentor that has already established a rapport with a student will have more of an impact than a new and unfamiliar mentor. This may be because **"**Career counselors are often privy to the relationship between individual's career goals and other important life domains, e.g. family" (Brott, 2005). These watered-down effects

of training may be especially relevant for psychology majors who have been privy to similar discussions in their introduction to the psychology major class.

Due to the fact that the subjects of this study were college students, the findings pertain best to assisting those who are early in the development of their career plans. It would be beneficial to extend goal intervention research to entry and senior level employees. Magnifying this research will be needed in order to generalize findings and develop a comprehensive workable framework for assisting those in their goal setting process and pursuits.

Future Directions

The practical application of goal setting principles and how they operate in applied goal training settings has received little empirical attention. As such, future research should further test the impact of goal training interventions rooted in goal hierarchy theory. Specifically, a longer, more in depth goal training program, spanning several months in both a university and applied work setting would be beneficial.

More needs to be known about hierarchical goal structures. Are goals naturally conceptualized in the mind of goal setters in a hierarchical fashion or is it unnatural to think about goals this way. Are there more heuristic ways of thinking about a network of goals?

Another direction for goal intervention research should be the inclusion of a long-term follow-up. Although apparent changes in the goal structures were found, what reminds unknown is the long-term implications these changes may have for individuals and their goal structures.

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APPENDIX A

Informed Consent Form

Title of Research: Assessing the Academic Motivation of College Students.
Supervising Professor: Thomas Kane, PhD, Psychology Department, Hill Hall 127
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E-mail: TomKane@missouristate.edu
Project Leader: Charlie Redhead, Graduate Student, Industrial Organizational Psychology
E-mail: redhead123@live.missouristate.edu

Thank you for taking time to participate in this study. The information that you give today will provide us with a better understanding of the academic motivation of college students. Studies like this can help educators improve advisement programs and career development programs here at MSU and at other academic institutions. For this reason, it is very important that you answer all of the questions completely and honestly. In total you will receive 3 units of credit for this study. Today, during Session I, you will receive 2 units of credit. An additional 1 unit of credit will be awarded for the completion of Session II. Session II is a survey administered online near the end of the semester. The total time for completing Session I and Session II will not exceed 2 hours.

On your survey, we ask you to provide your student ID. We do this for two reasons. First, it will help us gather additional information about you from the University computer data banks during your stay here as a student at MSU. Second, we will be able to contact you to complete Session II of this project near the end of the semester. You can be assured that no one except those who are directly involved in this research project will have access to any data that you provide and that your survey responses will be kept confidential.

Your participation is voluntary and you may choose not to participate in this research (or Session of our research) at any time. We thank you very much for your time.

I VERIFY THAT I HAVE READ AND FULLY UNDERSTAND THE STATEMENT OF PROCEDURE AND THAT I MAY TERMINATE MY PARTICPATION IN THIS STUDY AT ANY TIME WITHOUT PENALIZATION. I FURTHER VERIFY THAT I AM AT LEAST EIGHTEEN YEARS OF AGE.

By signing my name, I hereby grant my consent to participate in this study and for the researchers to verify my personal information (GPA and ACT) from academic records on the MSU database which will be held strictly protected and confidential.

Name:_____

Email Address:_____

APPENDIX B

Study Questionnaire

Student Survey

M Number #: ___ ___ ___ - ___ ___ - ___ ___ ___ ___

Intended major? _____ Check here if you are undeclared: ☐

What is your gender?

- ☐ Female
- ☐ Male
- ☐ Non-binary
- ☐ Prefer to self-describe_____
- ☐ Prefer not to say

ACT score: _____ High School GPA: _____
(best recollection)

Age: _____years

Class year:

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior

Highest level of education reached by a parent or guardian: (check one)

- ☐ High School Graduate
- ☐ Some College
- ☐ Masters
- ☐ Ph.D. Degree
- ☐ Other_____
- ☐ Prefer not to say

A) List your most important career goal(s) below. If you have not settled on a particular occupation at this time, think about aspects of a future career that you desire to attain e.g. working in a team or individually.

_____

_____

_____

_____

_____

_____

B) List the three most important reasons that you wish to attain this career goal.

1.) _____

_____

2.) _____

_____

3.) _____

_____

C) How difficult will this Career Goal be for you to attain compared to the average college student? (check a box ☑.)

Extremely Easy 1 ▼	Easy 2 ▼	Somewhat easy 3 ▼	Neither easy or hard 4 ▼	Somewhat hard 5 ▼	Hard 6 ▼	Extremely Hard 7 ▼
☐	☐	☐	☐	☐	☐	☐

A) List all the goals that you need to accomplish in order to achieve your career goal.

A) List your MOST IMPORTANT short term goal that you set to accomplish by the end of the semester. **(One goal).**

_____

_____

B) List other important academic or professional goals you want to accomplish this semester

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer the following questions with respect to your goals.
Respond to each item by checking one box ☑.

In terms of natural ability, how difficult do you think your goals will be to attain compared to the average college student?

- ☐ Require much less talent or ability
- ☐ Require less talent or ability
- ☐ Require about the same amount of talent or ability
- ☐ Require more talent or ability
- ☐ Require much more talent or ability

In terms of effort, how difficult do you think your goals will be to attain compared to the average college student?

- ☐ Require much less effort to attain
- ☐ Require less effort to attain
- ☐ Require about the same amount of effort to attain
- ☐ Require more effort to attain
- ☐ Require much more effort to attain

My GPA goal this semester (between 1.0 and 4.0) is: _____

The <u>MINIMUM</u> GPA that I will accept achieving this semester is: _____

Career Goal Commitment.

Answer the following questions with respect to your **most important career goal. Please tell us the extent you agree or disagree with each item by checking the box ☑.**

	Strongly disagree ▼	Disagree ▼	Neither agree nor disagree ▼	Agree ▼	Strongly agree ▼
1. Attaining my career goal is important to my self-image.	☐	☐	☐	☐	☐
2. Attaining my career goal will make me proud of myself.	☐	☐	☐	☐	☐
3. I feel unusually passionate about reaching my career goal.	☐	☐	☐	☐	☐
4. My career goal is perfect for me.	☐	☐	☐	☐	☐
5. I may regret my career goal choice.	☐	☐	☐	☐	☐
6. I can't imagine ever lowering my career goal.	☐	☐	☐	☐	☐
7. Compared to other students I know, I have a lot of passion for my career goal.	☐	☐	☐	☐	☐
8. It would be too costly for me to change my career goal at this point in my life.	☐	☐	☐	☐	☐
9. Attaining my career goal is financially important to me.	☐	☐	☐	☐	☐
10. I have invested too much time to change my career goal now.	☐	☐	☐	☐	☐
11. I want to reach this goal because it will allow me to get other things I value in life.	☐	☐	☐	☐	☐
12. Reaching my career goal will make other people who are important to me proud.	☐	☐	☐	☐	☐
13. I want to reach my career goal because it will show others that I am a successful person.	☐	☐	☐	☐	☐
14. I often have doubts about reaching my career goal.	☐	☐	☐	☐	☐

Career Goal Difficulty.

	Strongly disagree ▼	Disagree ▼	Neither agree nor disagree ▼	Agree ▼	Strongly agree ▼
15. I'm not sure that I will excel in my chosen career.	☐	☐	☐	☐	☐
16. I may not be able to do all that it takes to attain my career goal.	☐	☐	☐	☐	☐
17. Reaching my career goal requires a high level of academic achievement in college.	☐	☐	☐	☐	☐
18. Whether I do well as an undergraduate in college or not, I can still reach my career goal.	☐	☐	☐	☐	☐
19. The goals that I achieve in my classes this semester are very important to my career pursuits.	☐	☐	☐	☐	☐
20. Just getting my degree will be enough for me to reach my career goal, regardless of GPA.	☐	☐	☐	☐	☐
21. I will have to do exceptionally well in college to have any chance of attaining my career goal.	☐	☐	☐	☐	☐

Career Goal Self-Efficacy.

Answer the following questions with respect to your **most important career goal.**
Please indicate your Confidence with each item by checking a box ☑.

	No Confidence ▼	Very little Confidence ▼	Moderate amount of Confidence ▼	Much Confidence ▼	Very much Confidence ▼	Complete Confidence ▼
22. I will accomplish all that I need to accomplish to reach my career goal.	☐	☐	☐	☐	☐	☐
23. How much confidence do you have in your academic ability to reach this goal?	☐	☐	☐	☐	☐	☐
24. How much confidence do you have in your ability to work hard in relation to reaching this goal?	☐	☐	☐	☐	☐	☐
25. How much confidence do you have in your ability to overcome difficult obstacles to reach this goal?	☐	☐	☐	☐	☐	☐
26. How much confidence do you have that you can stand out in the career that you choose?	☐	☐	☐	☐	☐	☐
27. How much confidence do you have that you will be exceptionally good as a professional in the career defined by your goal?	☐	☐	☐	☐	☐	☐

Career Self-Efficacy.

Answer the following questions with respect to your **most important career goal.**
Please indicate your Confidence with each item by checking a box ☑.

	No Confidence ▼	Very little Confidence ▼	Moderate amount of Confidence ▼	Much Confidence ▼	Very much Confidence ▼	Complete Confidence ▼
28. I will make good progress toward attaining my career goal this semester.	☐	☐	☐	☐	☐	☐
29. I have enough natural ability to attain my career goal.	☐	☐	☐	☐	☐	☐
30. I can work hard enough to reach my career goal.	☐	☐	☐	☐	☐	☐
31. My accomplishments this semester will exceed what is necessary to assure progress toward my career goal.	☐	☐	☐	☐	☐	☐
32. I will be able to overcome any difficult obstacles that I encounter when pursuing my career goal.	☐	☐	☐	☐	☐	☐
33. I will attain my career goal in the time span that I envision attaining it.	☐	☐	☐	☐	☐	☐
34. I will not only attain my career goal, but I will excel as a top achiever in my chosen career.	☐	☐	☐	☐	☐	☐
35. If I don't end up in the career that I envision, then the career that I end up pursuing will be at least as challenging as my stated career goal.	☐	☐	☐	☐	☐	☐
36. I will perform at least as well as the average professional in my chosen career.	☐	☐	☐	☐	☐	☐
37. I will become well-known as 'exceptional at what I do' in my chosen career.	☐	☐	☐	☐	☐	☐

Academic Self-Efficacy.

Answer the following questions about your **ability to perform in your classes this semester.**
Please tell us the extent of your ability from Extremely below average to Extremely above average of each item by checking the box ☑.

	Extremely below average ▼	Below average ▼	Average ▼	Above average ▼	Extremely above average ▼
38. How well do you concentrate and stay fully focused on the materials being presented?	☐	☐	☐	☐	☐
39. How well do you memorize facts and concepts covered in class?	☐	☐	☐	☐	☐
40. How well are you able to focus exclusively on understanding and answering questions and avoid breaks in your concentration?	☐	☐	☐	☐	☐
41. How well do you understand facts, concepts, and arguments presented in lectures, tutorials, or course materials (e.g. textbooks)?	☐	☐	☐	☐	☐
42. How well are you able to explain facts, concepts, and arguments covered in the course to others in your own words?	☐	☐	☐	☐	☐
43. How well are you able to discriminate between the more important and less important facts, concepts, and arguments covered in class?	☐	☐	☐	☐	☐
44. How able are you to make understandable course notes which emphasize, clarify, and relate key facts, concepts, and arguments as they are presented in lectures, tutorials, or course materials?	☐	☐	☐	☐	☐

Semester Goal Commitment.

Answer the following questions with respect to your **most important semester goal**
Please tell us the extent you agree or disagree with each item by checking a box ☑.

	Strongly disagree ▼	Disagree ▼	Neither agree nor disagree ▼	Agree ▼	Strongly agree ▼
45. It's somewhat hard to take my semester goal seriously.	☐	☐	☐	☐	☐
46. It's unrealistic for me to completely reach this goal.	☐	☐	☐	☐	☐
47. It is quite likely that this goal may need to be revised, depending on how things go.	☐	☐	☐	☐	☐
48. Quite frankly, I don't care deeply if I achieve this goal or not.	☐	☐	☐	☐	☐
49. I am extremely committed to pursuing this goal.	☐	☐	☐	☐	☐
50. It wouldn't take much to make me abandon this goal.	☐	☐	☐	☐	☐
51. I am willing to put forth a great deal of effort beyond what typical college students do to achieve this goal.	☐	☐	☐	☐	☐
52. I think this is a great goal to shoot for.	☐	☐	☐	☐	☐
53. There is not much to be gained by trying to achieve this goal.	☐	☐	☐	☐	☐

APPENDIX C

Goal Training PowerPoint

PLAN YOUR WAY TO SUCCESS

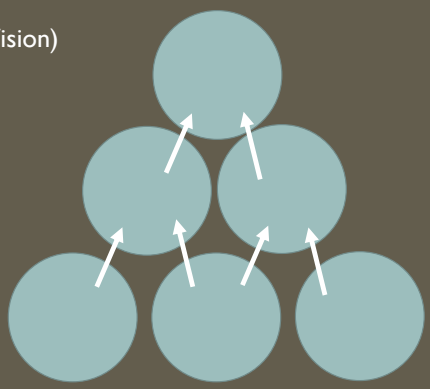
"I think goals should never be easy, they should force you to work, even if they are uncomfortable at the time."

GOAL-SETTING

- What is a goal?
- How do they work?
- How do I develop effective goals?

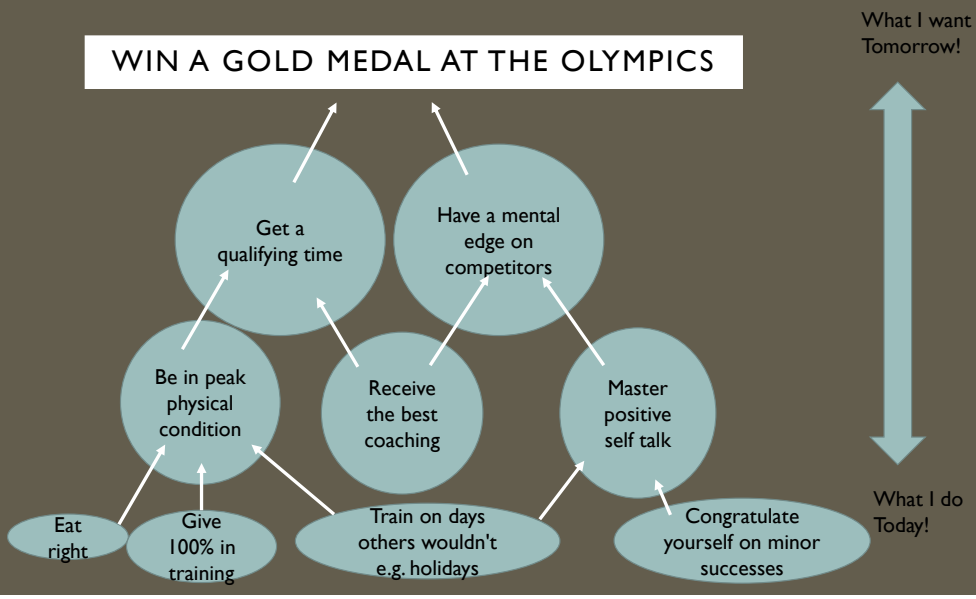
TYPES OF GOALS

- Most Important Career Goal (Your Vision)
- Connecting Goals (Your Map)
- Task Goals (Motivators)



These Goal Drives your Plan!

A plan that is kind of like a GOAL MAP

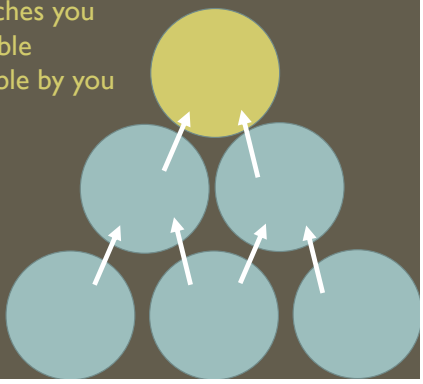


GOAL MAPS CAN BE VAGUE/INCOMPLETE

MOST IMPORTANT CAREER GOAL

What do you want most in your future career?

- Customized- fits you
- Compelling- excites you
- Optimistic- stretches you
- Specific– as possible
- Realistic- achievable by you



Can you ask me questions to improve my most important career goal?

Ask away….

- Customized- fits you
- Compelling- excites you
- Optimistic- stretches you
- Specific– as possible
- Realistic- achievable by you

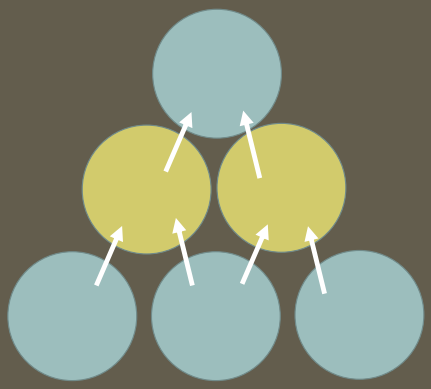
MOST IMPORTANT CAREER GOAL

- Customized- fits you
- Compelling- excites you
- Optimistic- stretches you
- Specific– as possible
- Realistic- achievable by you

Write down your most important reasons this goal is valuable to you.

- Rewards to you?
- Impact on people you care about (current & future)?
- Making a difference in your field/for others/for society?

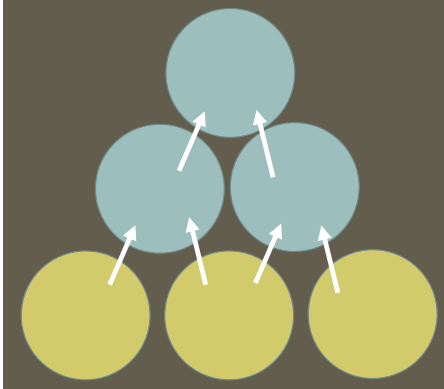
CONNECTING GOALS



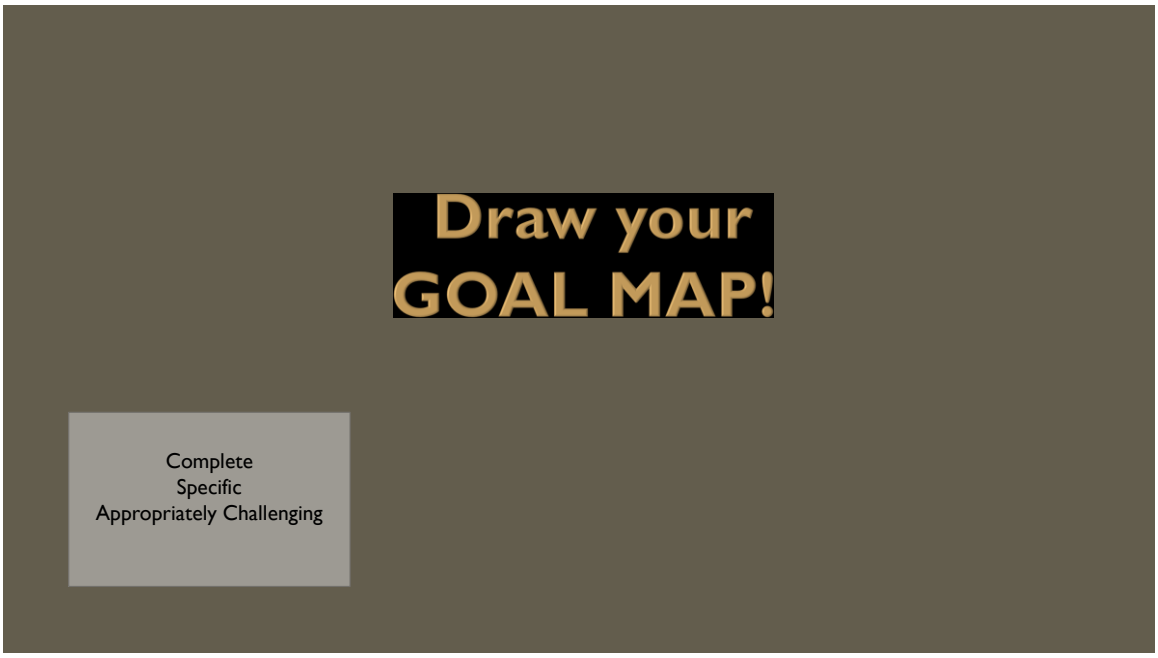
- Complete– includes the important subgoals
- Appropriately challenging– know the standard
- SPECIFIC as possible – Hold you accountable

TASK GOALS

- Specific
- Challenging



Unspecifc	Vs	*Specific*
Keep a high GPA		*Raise my GPA to above 3.2 this semester*
Try my hardest in class		*Pay full attention in class and take good notes. Do all assigned readings and extra credit opportunities.*


Draw your
GOAL MAP!
Complete
Specific
Appropriately Challenging