

GUT FEELINGS AND GOAL PURSUIT:  
A PATH TO SELF-CONCORDANCE

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by  
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GUT FEELINGS AND GOAL PURSUIT:  
A PATH TO SELF-CONCORDANCE

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A candidate for the degree of Doctor of Philosophy

And hereby certify that in their opinion it is worthy of acceptance.

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## ABSTRACT

Two studies examined the role of gut feelings within the self-concordance model of goal pursuit (Sheldon & Elliot, 1999). Using a correlational design, Study 1 found that pursuing goals based on a gut feeling is positively related to having self-concordant goals and negatively related to depressive symptoms. Study 2 employed a longitudinal experimental design in which participants were randomly assigned to either “follow your gut” or “be very rational” in listing their current goals. Approximately 3 months later participants completed follow-up measures regarding their goals and presence of depressive symptoms. Study 2 found that the positive relationship between concordance and a host of outcome variables studied in previous research (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001) including goal effort, goal attainment, and well-being (as indicated by fewer depressive symptoms) is most durable when goals are based on a gut feeling. Results are interpreted as indicative of gut feelings as an internal compass towards pursuits that are most likely to be fulfilling.

## Chapter 1

### INTRODUCTION

Humanistic approaches to motivation have suggested that a great deal of human misery arises out of the tendency to select goals that are not expressions of one's authentic needs. In lay terms, following one's heart, being true to one's deepest feelings, or "following one's bliss" is a key to optimal functioning. Representations of the conflict between what one wishes to do in one's heart of hearts (e.g., being a poor but honest piano player) vs. pursuing goals that promise more extrinsic rewards are common in popular culture. These ideas are supported by research on the self-concordance model of goal pursuit (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). This research has shown that individual differences in the tendency to select goals that serve intrinsic needs and values (e.g., autonomy, competence, relatedness) promotes well-being and explains why the pursuit of some goals is more beneficial than others. The present studies examine the translation of the self-concordance model into the lay terms of "following one's gut," to explore the phenomenology of goal selection and its implications for goal pursuit and well-being.

#### Self-concordance Model of Goal Pursuit

It has long been known that goals are a way people add meaning and structure to their lives (King, 2008; Klinger, 1977). However, a more nuanced picture of the role of goals in human functioning has emerged in research examining self-concordance. This research suggests that to enjoy the benefits of goal pursuit, one must pursue the right goals for the right reasons (i.e., self-concordance model of goal pursuit; Sheldon & Elliot,

1999; Sheldon & Houser-Marko, 2001). The self-concordance model of goal pursuit places an emphasis on the “degree to which stated goals express enduring interests and values,” (Sheldon & Elliot, 1999, p. 482). Two people can have the same goal of “get into graduate school,” for example, but if they are pursuing that goal for different reasons, different processes and outcomes can be expected.

In the self-concordance model, concordance is operationalized by determining the perceived locus of causality (deCharms, 1968) of one’s goals. Using the terminology of self-determination theory (SDT; Deci & Ryan, 1985; 2000), internal locus of causality would be manifested through intrinsic and identified motivations; whereas an external locus of causality would be manifested through extrinsic or introjected motivations. Intrinsic motivation comes from one’s own internal sense of values and desires. Identified motivation is similar to intrinsic motivation but with identified motivation people identify with and support the value of the activity even if they don’t feel it is necessarily a part of their internal sense of values (e.g., one can identify with the importance of exercising regularly even if one doesn’t have a deep seeded love of the activity; Deci & Ryan, 2000). On the other side of the locus of causality spectrum lie extrinsic and introjected motivations. Extrinsic motivation stems from a desire for tangible external rewards or to avoid punishment. Introjected motivation is similar to extrinsic motivation but is based on external regulations or contingencies of worth set by one’s self; these are not contingencies that the individual necessarily supports or thinks are important but the person follows them nonetheless. Within the self-concordance model of goal pursuit, goals are thought to be concordant when pursued because of

identified or intrinsic motivation because these emanate from self-choices rather than external pressures (Sheldon & Elliot, 1999).

The pursuit of concordant goals has been found to lead to sustained effort towards such goals, better attainment of the goals, enhanced subjective well-being upon attainment, and better adjustment and higher GPA in college students (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). The effects of self-concordance on outcomes such as effort and attainment have been shown over short term periods of just a couple weeks (Study 2, Sheldon & Houser-Marko, 2001) and longer term periods of up to 9 months (Study 1, Sheldon & Houser-Marko, 2001). Sheldon and colleagues have interpreted the durability of these effects over both short term and long term periods as indicative of an “upward spiral” created by the pursuit of concordant goals (Sheldon & Houser-Marko, 2001). Essentially pursuing concordant goals is more likely to lead to attainment which is more likely to lead to increased well-being and a better GPA which is more likely to lead to more concordant goals in the future and so on.

Given the clear importance of concordant goals demonstrated by previous research, the question arises whether there is a way to increase the number of self-concordant goals that individuals are pursuing. To date, most research has assumed that some people come into a research study with more concordant goals than others therefore creating enough variance in concordance to be predictive of outcomes such as goal attainment and well being. But no study has explicitly attempted to manipulate the concordance of goals in an effort to facilitate the positive outcomes of self-concordant goal pursuit previously discussed. Before proposing one possible technique of enhancing self-concordance, it is necessary to consider the phenomenological experience of goal

selection itself. The self-concordance model of goal pursuit contends that some goals emanate from intrinsic values whereas others are pursued because of external reasons but it is important to consider how individuals might subjectively experience the process of goal selection itself.

#### Gut Feelings vs. Rational Reasons in Goal Pursuit

One way to conceptualize goal selection is to contrast following gut feelings with selecting goals based on cold rationality. A gut feeling is a visceral, vague, intuitive yet uniquely compelling sense about something. Identifying the source of gut feelings is difficult because gut feelings are presumably the product of unconscious processing which helps to explain why they are vague and frequently lack a coherent rationale.

Superficially at least, following an intuitive gut feeling does not sound wise. After all, it is just a feeling; and usually a feeling that can't even be clearly articulated. But might following one's gut be beneficial? Recently research has begun to uncover the power of the unconscious processing system that is assumed to underlie gut feelings. In one set of studies, participants were asked to select the best apartment based on several pieces of information some of which was objectively negative and some of which was objectively positive. Some participants were instructed to take their time and use conscious thought to weight the pros and cons of each apartment and make a decision whereas other participants were distracted, preventing conscious thought but facilitating unconscious thought. Across several studies, the unconscious thought condition consistently made the best decision compared to the other conditions in that the unconscious thought condition tended to choose the more objectively superior option (Dijksterhuis, 2004). Subsequent research has extended these findings by comparing

conscious vs. unconscious thought when selecting simple versus complex products (Dijksterhuis, Bos, Nordgren, & von Baaren, 2006). Indeed, when selecting amongst complex products (e.g., expensive items such as cars and furniture) those who engaged in the least conscious thinking selected better products (based on objective measures) and were more satisfied with their purchases. Conscious processing, on the other hand, was favored for selecting between simple products (e.g., shampoo).

When it comes to selecting personal goals, people have to weigh a variety of factors. Wishes for the future, present obligations, abilities, skills, situational constraints, and past experiences are all important factors to consider when selecting goals. Given these many factors, then, it is reasonable to predict that selecting goals is more akin to selecting between complex products or apartments than simple products. Therefore, unconscious processing, or gut feelings, may be more likely to lead to better personal goals than would conscious processing. Of course, such a prediction doesn't necessarily mean that conscious or rational processing is bad, just that it's not the best method for complex decisions. Conscious processing is inherently limited in the amount of information it can effectively handle. Some estimates suggest that the conscious mind can only process 7 pieces of information at any given time (Miller, 1956). The conscious mind is ideally suited for many applications but given the number of factors that must be taken into account and the less tangible feelings or emotions that must be considered when selecting goals, goal selection may not be one of those applications for which conscious processing is ideally suited.

Another aspect of conscious processing that must be considered is the tendency to over or under weigh the importance of key pieces of information (Wilson, Lisle,

Schooler, Hodges, Klaaren, & LaFleur, 1993)). One explanation offered for the inaccurate weighting of information in conscious processing is that some reasons are easy to verbalize whereas others are not and those that are easy to verbalize are attributed more weight. Yet, over time, the subjective, difficult to verbalize feeling is more predictive of satisfaction. A similar process may occur when selecting goals. For example, when selecting a goal an individual may reasonably choose to raise his or her GPA. This goal is smart, practical, and the reasons for it are easy to verbalize (e.g., “a good GPA is important to get a good job after school”). But what is more difficult to verbalize, and perhaps more important, is the general, nonspecific sense of dread one may feel towards their coursework and maybe that’s actually an important factor to consider because the individual in question may not even find a career where a high GPA is important to be satisfying in the long run.

#### Gut Feelings as a Route to Self-concordance

When Sheldon and Elliot (1999) first introduced the self-concordance model of goal pursuit they noted that “some individuals may have selected goals that do not represent the values and interests of their ‘self’ well” (p. 482) and, furthermore that “this may occur to the extent that during deliberation, people are out of touch with the holistic self-feelings or global system representations necessary to make informed choices” (p. 483). But how then do people get in touch with these “holistic self-feelings?”

One way to get in touch with these feelings, and thereby stack the deck in favor of self-concordance, may simply be to tell people to follow their gut. Carl Rogers once wrote that “...doing what ‘feels right’ proves to be a competent and trustworthy guide to behavior which is truly satisfying” (Rogers, 1961; p. 189). Doing what “feels right”

comes when a person is open to his or her experience and trusts his or her “organism” (i.e., gut). When one is open to using his or her gut, s/he has access to all available information such as memories of similar situations, perception of the current situation, social demands, personal needs, etc. and being open to such information leads one to more satisfying pursuits and experiences (Rogers, 1961). According to Rogers, we all have an innate capacity to select the best goals for optimal functioning, the key is to listen to that capacity and follow the hunches it provides.

One set of studies suggests that, for most people, Carl Rogers was right and there is an “innate ability” that directs people towards intrinsic goals that are likely to lead to increases in well-being (Sheldon, Arndt, & Houser-Marko, 2003). Specifically, Sheldon and colleagues (2003) found that over periods of time, ranging from a mere 20 minutes to 6 weeks, people tend to rate intrinsic goals with increasing importance and extrinsic goals with decreasing importance. Results were interpreted as indicative of an innate system directing people towards goals that are more fulfilling. It is reasonable to suspect that gut feelings represent that innate system. So a function of the gut may be to direct people towards goals that are more likely to be intrinsically satisfying.

Phenomenologically speaking then, is following one’s gut the same as choosing self-concordant goals? According to SDT the answer would seem to be yes, people have an innate tendency towards fulfilling pursuits. But SDT, while a strong psychological theory, is also rather complex and likely to be relatively meaningless to lay persons. The identification of goals as concordant involves a rather abstract calculation. It is unlikely that the average person would know what you meant if you asked them to list some goals that have a positive value when you add up the intrinsic and identified reasons and

subtract the introjected and external reasons. Instead, the naïve goal selector might feel that some goals emerge from following his or her gut, while others serve more logical or rational ends. If gut feelings are related to concordance, then instructing individuals to “follow your gut” may be the most parsimonious avenue towards enhanced self-concordance.

### Overview and Predictions

The present investigation examined whether when people follow their gut they select more concordant goals and whether manipulating this tendency might actually promote the selection of optimal goals. Two studies were conducted to examine these relationships. The first study used a correlational design to test the prediction that goals that emerge from “following one’s gut” are more likely to be self-concordant, providing evidence that the selection of self-concordant goals is indeed related to the feeling that one has followed one’s gut. The second study included an experimental manipulation where participants were encouraged to either follow their gut or to be very rational in their goal listing; this study also included a 3 month follow-up. It was predicted that following gut feelings would be positively related to self-concordance of goals. In addition the implications for these instructions for the process of goal pursuit and attainment were examined. Finally, in an extension of previous work on the relationship between self-concordance and subjective well-being (Sheldon & Houser-Marko, 2001), it was also predicted that self-concordance would be negatively related to the presence of depressive symptoms.

## Chapter 2

### STUDY 1: METHOD

#### *Participants*

Participants were 59 (22 men, 37 women) undergraduate students ranging in age from 18 to 26 ( $M = 18.42$ ;  $SD = 1.16$ ). Represented ethnic groups included 83% Caucasian, 12% African American, and 5% Asian. Participants were all enrolled in an introductory to psychology class and received course credit in exchange for their participation.

#### *Materials and Procedure*

All materials were presented in private cubicles on computers using MediaLab software (Empirisoft, 2004). After giving informed consent, participants were provided with the following prompt and asked to list 7 goals:

We would like you to think about what goals you will be pursuing this year. Try to think of goals that you will work on throughout the year and possibly beyond. Please do not include simple tasks such as “going to the store” or “clean my room.”

After listing 7 goals, participants completed both the self-concordance measure and the gut versus rational goal derivation item in response to each goal. Participants then completed the depressive symptom measure.

*Self-concordance.* Participants rated the perceived loci of causality of each goal (intrinsic, identified, introjected, or extrinsic) according to methods established by previous researchers (Ryan & Connell, 1989; Sheldon & Houser-Marko, 2001). Using a

scale of 1 (not at all) to 9 (completely), participants rated each goal on 8 statements representing each of the 4 loci of causality for pursuing the goal (2 items per locus of causality). Sample items for each locus of causality included “To what extent do you strive for this goal because it's interesting and fun,” (intrinsic); “To what extent do you strive for this goal because you think it is a valuable goal to have,” (identified); “To what extent do you strive for this goal because you would feel ashamed, guilty, or anxious if you didn't,” (introjected); “To what extent do you strive for this goal because somebody else wants you to or because the situation seems to compel you to,” (extrinsic).

A concordance score for each goal was calculated by summing the intrinsic and identified scores and subtracting the introjected and extrinsic scores. Reliability analyses indicated the measure was reliable on par with previous research ( $\alpha = .86$ ; c.f., Sheldon & Houser-Marko, 2001).

*Gut versus rational goal derivation.* In addition to the self-concordance ratings, participants rated each goal on the following forced choice item: “If you had to choose, would you say the reason you are pursuing your goal to [participant’s goal] is because: a.) you feel it in your gut; b.) it is very rational. Scores for participants were expressed as proportions of goals listed.

*Depressive symptoms.* The presence of depressive symptoms was measured using items from the depression subscale of the Personality Assessment Inventory (PAI; Morey, 1991). The full version of this subscale contains 24 items however due to time limitations only 10 of those items were administered in this study. Extensive reliability analyses based on the full 24 item version have been conducted and the measure is generally considered to be quite reliable (test-retest reliability of .86 in a college sample

administered at 2 time points, 24 days apart; Morey, 1991). Selection of items for use in this study was based on the results of a factor analysis of the full 24 item measure administered in an independent sample with a similar age, gender, and ethnicity breakdown as the present sample. The 10 items with the highest factor loadings were selected ( $\alpha = .87$ ). Participants rated each item (samples: “Much of the time I am sad for no reason.” and “Sometimes I think I’m worthless.”) on a scale of 0 (false, not at all true) to 3 (very true).

## Chapter 3

### STUDY 1: RESULTS

Descriptive statistics and correlations between variables can be seen in Table 1. Notably, listing more goals that were being pursued based on a gut feeling (as opposed to being very rational) was related to significantly fewer depressive symptoms and significantly higher self-concordance scores but self-concordance and depressive symptoms were only marginally negatively related. Thus, as predicted, concordant goals were more likely to emerge when individuals reported phenomenologically that they were following their gut. Also, as shown in Table 1, about 52% of goals listed were based on a gut feeling.

To further explore the robustness of the relationships between the goal variables and depressive symptoms, hierarchical regressions were computed. In the first hierarchical regression, the percentage of goals based on a gut feeling was entered on step 1 ( $\beta = -.29, p = .03$ ) and self-concordance was entered on step 2 ( $\beta = -.16, p = .25; R^2$  change =  $.02, p = .25$ ; overall  $R^2 = .11$ ). This regression demonstrates that self-concordance is not a significant predictor of depressive symptoms when the percentage of goals based on a gut feeling is controlled for. In the second regression, self-concordance was entered on step 1 ( $\beta = -.25, p = .06$ ) and the percentage of goals being pursued based on a gut feeling was entered on step 2 ( $\beta = -.24, p = .09; R^2$  change =  $.05, p = .09$ ; overall  $R^2 = .11$ ). Essentially then, controlling for self concordance, the percentage of goals based on a gut feeling was still marginally negatively related to depressive symptoms. Generally speaking, while the prediction that following one's gut in listing goals is

positively related to increased self-concordance was confirmed, it was the gut derivation of goals that was the strongest predictor of depressive symptoms, not the self-concordance of goals.

The results of Study 1 generally adhered to the predictions. However, given the one-shot correlational nature of Study 1, it is unknown if the relationships found hold up over time. Furthermore, though following gut feelings appears to be a good way of coming up with goals, it is unknown if people can be encouraged or directed to follow their gut in listing goals. In Study 1, participants were given relatively vague instructions on how to go about listing their goals and it was found that, on average, about half of the goals listed were based on a gut feeling. Study 2 therefore explored the possibility of altering the goal listing instructions and thereby altering the percentage of those goals derived from gut feelings.

## Chapter 4

### STUDY 2: METHOD

As Study 1 showed, the naïve feeling of following one's gut appears to conform with the abstract notion of concordance. If the goal is to promote the selection of optimal goals, we might consider instructing people to simply follow their gut and try to increase the percentage of goals based on a gut feeling. Therefore, Study 2 employed an experimental manipulation where some participants were instructed to follow their gut and others were instructed to be more rational in their goal listing. The long term benefits or consequences of these different goal listing techniques on outcomes such as goal attainment and depressive symptoms was then examined. Additionally, Study 2 looked at how the actual pursuit (e.g., effort put into goals, perceived progress, etc.) and goal content (promoting intrinsic vs. extrinsic ends) differs by whether people are pursuing their goals based on a gut feeling or something else such as rational, carefully thought out reasons.

#### *Participants*

Participants were 165 (31 men, 134 women) undergraduate students ranging in age from 18 to 29 ( $M = 18.54$ ;  $SD = 1.29$ ). Represented ethnic groups included 81% Caucasian, 8% African American, 4% Hispanic, 4% Asian, and the remainder identified as "other." Participants were all enrolled in an introductory to psychology class and received course credit in exchange for their participation.

#### *Materials*

All materials were presented in private cubicles on computers using MediaLab software (Empirisoft, 2004) during two lab sessions separated by approximately 3 months. Self-concordance of goals was measured in the same manner as in Study 1, as was the presence of depressive symptoms, except that in Study 2 the full 24 item version of the PAI depression scale was administered.

*Goal process ratings.* During their first lab session, participants rated aspects of each goal. Specifically, using a scale of 1 (not at all) to 9 (extremely), participants rated “how well do you expect to do,” “how much effort do you expect to put into this goal,” how important is this goal to you,” and “how difficult do you expect this goal will be.” During the second lab visit, these same items were completed but wording was changed to past tense and two additional items were added: “how much do you enjoy pursuing your goal” and “how much do you dread pursuing your goal.”

*Goal content ratings.* Participants rated the extent to which each of their goals would facilitate six “possible futures” that represented three intrinsic outcomes and three extrinsic outcomes derived from previous research on goal content (Sheldon & Kasser, 1995; Sheldon, Ryan, Deci, & Kasser, 2004). The three intrinsic “possible futures” included were: “have many close and caring relationships,” “be fulfilled and have a very meaningful life, and “help you make the world a better place.” The three extrinsic “possible futures” included were: “be known or admired by many people,” “look good and appear attractive to others,” and “get a job that pays very well and have a lot of nice possessions.” Items were rated on a scale of 1 (not at all) to 9 (extremely).

*Procedure*

Data were collected in two waves. The first time point (Time 1) took place near the beginning of an academic semester, whereas the second time point (Time 2) took place towards the end of the semester. Time points were about 3 months apart. At Time 1 participants were randomly assigned to either the “follow your gut” condition or the “be very rational” condition. Instructions for the “follow your gut” condition were:

At one point or another, we've all heard the advice to "follow your heart," or "listen to your gut." Psychologists have shown that this may indeed be good advice. There is a general feeling of "rightness" about following one's heart or gut, that what your heart tells you to do is what you were truly meant to do. Now we would like you to free your mind and listen to your heart or your gut. What goals will you be pursuing this semester? Try to think of goals that you will work on throughout the coming semester and possibly beyond. Please do not include simple tasks such as "going to the store" or "clean my room." Most importantly though, listen to your intuition and think about the goals that you really feel in your gut are good goals to pursue. We would like you to think of 5 such goals. On the next screen, please type your first goal and press "enter," then type your second, and so on until you have listed 5 goals. It's okay if you don't have a clear reason for pursuing the goal, just listen to your gut and think of goals that you have good feelings or good vibes about.

Instructions for the rational condition were:

At one point or another we've all heard the advice to "be practical," or "be rational." Psychologists have shown that this may indeed be good advice. There is a general feeling of responsibility about doing what is practical or rational.

Now we would like you to think very carefully and rationally. What goals will you be pursuing this semester? Try to think of goals that you will work on throughout the coming semester and possibly beyond. For the purpose of this study, goals are defined as projects or pursuits that you think about, plan for, carry out, and sometimes (though not always) complete or succeed at. Please do not include simple tasks such as "going to the store" or "clean my room." Most importantly though, be practical and think carefully about the goals that are logical and rational to pursue. We would like you to think of 5 such goals. On the next screen, please type your first goal and press "enter," then type your second, and so on until you have listed 5 goals. Please list only those goals that are practical and rational.

After listing their 5 goals, participants rated each goal on self-concordance and the goal process and goal content items. Additionally, a forced choice manipulation check item for each goal was included. This item asked participants "If you had to choose, would you say the reason you are pursuing this goal is because: [Option 1] you feel it in your gut [or Option 2] it is very rational." Participants then completed the PAI depression scale.

Based on previous research, we suspected that the mannerisms of the experimenter could influence the power of this particular experimental manipulation (Simon, Greenberg, Harmon-Jones, Pyszczynski, Solomon, Arndt, & Abend, 1997). Essentially this work found that being overly professional can interfere with experiments that require participants to think intuitively or experientially. Therefore, though random assignment procedures were employed, condition assignment within each timeslot was

kept constant. During the timeslots for the “follow your gut” condition, experimenters were instructed to act casually and read a newspaper while sitting in a lounge chair. During the timeslots for the “be very rational” condition, experimenters were instructed to act professionally and sit at a desk with a computer that had a spreadsheet open. Experimenters were blind to the purpose of this manipulation and unaware of the different instructions for the goal listing that participants would receive once they were set up on the computer to complete the materials (e.g., follow your gut vs. be very rational).

At Time 2, near the end of the semester, participants were contacted and asked to schedule a follow-up visit. 118 participants (72% of those who completed Time 1 measures) completed the Time 2 measures. During the Time 2 visit, participants were reminded of both the goal listing instructions they received at Time 1 and the goals they listed (exact wording was “As you may recall, during your first visit for this study you were asked to list 5 goals that you felt in your gut were good goals to pursue [that were rational and logical goals to pursue]. You listed the following 5 goals”). Participants then completed the goal process items (same items as Time 1 but the items were phrased in the past tense and the two additional items described in the materials section were included); participants also rated on a scale of 1 (not at all) to 9 (completely) their degree of attainment for each goal. The specific attainment of the goal content categories was measured in aggregate form across goals so, for example, each participant rated “To what extent have your goals that you listed during your first visit helped you to have many close and caring relationships with others,” rather than rating each goal individually. Lastly, participants completed the PAI depression scale.

## Chapter 5

### STUDY 2: RESULTS

#### *Manipulation check*

For each goal, participants completed a forced choice manipulation check. Responses for each goal were coded such that a value of 1 indicates a gut feeling and 0 represents a rational choice; items were then summed across goal. A t-test on the sum of the manipulation checks indicated the manipulation was generally successful with participants in the gut condition indicating more goals being pursued because of a gut feeling ( $M = 2.99$ ) than did those in the rational condition ( $M = 2.40$ ;  $t_{(163)} = 3.28$ ,  $p = .001$ ).

#### *Relationships among variables*

Table 2 presents the correlations between all variables as well as descriptive statistics. While there are too many correlations to discuss all of them individually, some broad conclusions can be drawn from Table 2. Participants expected to do better at their more concordant goals and also considered those goals to be more important. There was also a tendency for participants to view their concordant goals as more likely to lead to intrinsically valued outcomes (e.g., meaning and fulfillment) and less likely to lead to some extrinsic outcomes (e.g., money and material possessions). At Time 2, some straightforward relationships were found such as the more effort participants put into their goals the more likely they were to attain their goals. Also, the more participants were able to attain their goals, the fewer depressive symptoms they reported at Time 2. Depressive symptoms at Time 2 were also negatively related to Time 2 intrinsic goal

outcomes such as relationships and meaning. Notably, at both Time 1 and Time 2, the intrinsic goal content items (relationships, meaning/fulfillment, and make the world better) were positively related to the extrinsic goal content items (admiration by others, attraction by others, and money/material possessions) indicating that these are not opposite ends of the same continuum.

### *Concordance*

The first goal of study 2 was to demonstrate that the concordance of goals could be increased by instructing individuals to follow their gut. To test this, the concordance of each goal was computed separately and then a mean score across all goals was computed. In accord with predictions, a t-test showed that the instruction to “follow your gut” did significantly increase the self-concordance of the goals listed compared to the instructions to “be very rational” ( $M = 10.43$  vs.  $8.25$ ;  $t_{(163)} = 2.30$ ,  $p = .02$ ).

### *Goal process and content: Time 1*

For each of the goal process and goal content items, mean scores across the five goals were computed. All analyses report results based on these mean scores. A MANOVA was conducted on the four Time 1 goal process items to test for differences by condition. The multivariate test indicated that the groups did not differ significantly (Wilks' lambda = .98,  $F_{(4,160)} < 1$ , n.s.). In other words, those told to follow their gut did not plan on performing better or plan on putting in more effort towards their goals nor did they perceive their goals to be any more important or difficult than those assigned to the rational condition.

A separate MANOVA by condition was conducted on the six Time 1 goal content items. The multivariate test (Wilks' lambda = .92,  $F_{(6,158)} = 2.19$ ,  $p = .05$ ) indicated

differences on the extent to which participants felt their goals would foster close and caring relationships ( $F_{(1,163)} = 4.81, p = .03$ ) and the extent to which goals would help get a high paying job and acquire a lot of material possessions ( $F_{(1,163)} = 4.29, p = .04$ ). Additionally, there was a marginal difference on the degree to which participants felt their goals would lead to a fulfilling and meaningful life ( $F_{(1,163)} = 2.65, p = .105$ ). Those who were instructed to follow their gut thought their goals would be more likely to foster caring relationships ( $M = 5.74$  vs.  $5.18$ ), marginally more likely to lead to more fulfillment and meaning ( $M = 7.19$  vs.  $6.84$ ), and less likely to lead to a high paying job and a lot of material possessions ( $M = 5.39$  vs.  $5.98$ ).

*Goal process and content: Time 2*

A MANOVA by condition was conducted on the four Time 2 goal process items that were also included at Time 1. As at Time 1, the multivariate test indicated no group differences on these items (Wilks' lambda = .96;  $F_{(4, 112)} = 1.21, n.s.$ ).

Separate t-tests were conducted on the two items that were included at Time 2 but not at Time 1 (dread and enjoy). T-tests revealed that those in the gut condition dreaded pursuing their goals less ( $M = 3.04$  vs.  $3.75$ ;  $t_{(115)} = 2.45, p = .02$ ) and found their goals to be marginally more enjoyable than those in the rational condition ( $M = 5.93$  vs.  $5.46$ ;  $t_{(115)} = -1.72, p = .09$ ).

A MANOVA by condition was conducted on the six Time 2 goal content items. The multivariate test indicated significant group differences (Wilks' lambda = .89;  $F_{(6,110)} = 2.29, p = .04$ ). Specifically, those in the rational condition continued to perceive their goals as more likely to lead to money and possessions than did those in the gut condition ( $M = 4.91$  vs.  $3.94$ ;  $F_{(1,115)} = 3.87, p = .05$ ). Participants in the rational condition also

reported their goals to be marginally more likely to lead to the admiration of others ( $M = 4.86$  vs.  $4.24$ ;  $F_{(1,115)} = 2.54$ ,  $p = .11$ ).

#### *Attainment and depressive symptoms*

An overall degree of attainment score at Time 2 was computed by averaging across goals. There was no significant difference between conditions on Time 2 goal attainment ( $t_{(115)} < 1$ , n.s.). Furthermore, controlling for Time 1 depressive symptoms ( $F_{(1,115)} = 139.42$ ,  $p < .001$ ), there was no difference between conditions on the presence of depressive symptoms at Time 2 ( $F_{(1,115)} < 1$ , n.s.). According to the self-concordance model of goal pursuit (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001) such straightforward main effects may not necessarily be expected. Rather, since the self-concordance of the goal is an important variable in predicting both goal attainment and the presence depressive symptoms, it is necessary to consider condition by concordance interactions.

To test for the interaction between condition and concordance predicting goal attainment, the interaction term was first computed by multiplying condition (coded as rational = 0; follow your gut = 1) by the mean deviation score of concordance. The main effects were entered into a hierarchical regression equation at step 1 followed by the interaction term at step 2. There was no main effect for either condition ( $\beta = -.003$ ,  $p = .98$ ) or concordance ( $\beta = -.044$ ,  $p = .65$ ) but there was a significant interaction ( $\beta = .36$ ,  $p = .008$ ;  $R^2$  change =  $.06$ ,  $p = .008$ ; overall  $R^2 = .063$ ). As shown in Figure 1, concordance was more likely to predict attainment when participants were told to follow their gut ( $\beta = .20$ ,  $p = .12$ ) compared to when participants were instructed to be rational ( $\beta = -.30$ ,  $p = .03$ ). This result offers preliminary evidence indicating a uniquely beneficial relationship

between following one's gut and pursuing concordant goals. Specifically, it indicates that while neither following one's gut nor concordance predicts enhanced goal attainment, when an individual's gut leads them to more concordant goals, those goals are more likely to be attained.

Analyses next turned to the prediction of depressive symptoms at Time 2. A hierarchical regression equation was conducted. At step 1, Time 1 depressive symptoms was entered as a control variable, followed by the main effects for condition and concordance at step 2, and finally the interaction term at step 3. Controlling for Time 1 depressive symptoms ( $\beta = .74, p < .001; R^2 = .55$ ) and in the absence of main effects for either condition ( $\beta = .07, p = .31$ ) or concordance ( $\beta = -.08, p = .20; R^2 \text{ change} = .009, \text{ n.s}$ ), an interaction did emerge ( $\beta = -.18, p = .04; R^2 \text{ change} .02, p = .04; \text{ overall } R^2 = .57$ ). As Figure 2 shows, there is again a unique relationship between the instruction to follow one's gut and concordance: when one is told to follow his or her gut but lists relatively non-concordant goals at Time 1, depressive symptoms at Time 2 are relatively high. But as the degree of concordance increases for those told to follow their gut at Time 1, fewer depressive symptoms are experienced at Time 2 ( $\beta = -.18, p = .04$ ) compared to those told to be very rational ( $\beta = .06, p = .56$ ).

Previous research has found the attainment of self-concordant goals is particularly relevant to well-being (Sheldon & Elliot, 1999). Therefore, to further explore the relationship between condition, concordance, attainment, and depressive symptoms, a hierarchical regression equation was computed to test for a three way interaction (condition x concordance x attainment) predicting the presence of depressive symptoms at Time 2. After entering Time 1 depressive symptoms at step 1 ( $R^2 = .61$ ), all main

effects at step 2 ( $R^2$  change .04,  $p = .01$ ), and all two way interactions at step 3 ( $R^2$  change = .016,  $p = .17$ ), a three way interaction emerged at step 4 ( $\beta = .22$ ,  $p = .01$ ;  $R^2$  change = .019,  $p = .01$ ; overall  $R^2 = .65$ ). To probe the three way interaction, the data were split by condition and the two way interaction of concordance by attainment predicting depressive symptoms was tested. Results indicated that the two way was only significant within the gut condition ( $\beta = .20$ ,  $p = .01$ ). Figure 3 shows that, for those who followed their gut in the original goal listing at Time 1, the attainment of highly concordant goals does not impact depressive symptoms. But when participants who are instructed to follow their gut fail to list highly concordant goals, attainment does impact the presence of depressive symptoms at Time 2. This finding demonstrates the consequence of experiencing a sort of “gut malfunction” where following one’s gut does not lead to self-concordant goals as it should. It is clear from data collected at Time 1 that generally, and as predicted, following one’s gut does lead to more concordant goals. But the three-way interaction for condition, concordance, and attainment indicates, among other things, that not all people who followed their gut were able to list concordant goals. For some there was an apparent “malfunctioning” of their gut instincts.

To further examine this apparent “gut malfunction,” exploratory analyses were conducted to determine if there was a specific type of goal content that could explain the pattern of results. Within the gut condition only, concordance by attainment interactions were examined by running separate regression equations predicting each of the six Time 1 goal content items. A significant concordance by attainment interaction ( $\beta = .35$ ,  $p = .006$ ;  $R^2 = .20$ ) was found only for the “get a job that pays very well and have a lot of nice possessions” item. The pattern of this interaction was examined and found to be quite

similar to the concordance by attainment interaction (within the gut condition) predicting Time 2 depressive symptoms. Though this finding is exploratory in nature, it offers some preliminary evidence that one way in which following one's gut can malfunction and put individuals at risk for experiencing depressive symptoms as a result of lack of goal attainment is when one interprets their gut feelings as indicative of the importance of pursuing wealth and material possessions.

#### *Time 1 expectation vs. Time 2 reality*

Based on the correlations already presented, we know that people expected to do better at their concordant goals but held no such expectation for goals derived from a gut feeling. However, based on the condition by concordance interactive effects on other variables (e.g., attainment and depressive symptoms), such a straightforward main effect for concordance may not be expected to hold up over the long term (an academic semester in this case). Furthermore, individuals clearly did not expect the derivation of their goals (i.e., gut vs. rational) to matter but previous analyses indicated that, apparently unbeknownst to the participants, following one's gut is related to listing more concordant goals and therefore may impact actual goal performance.

The design of this study allowed for a comparison of how well people *expected* to do and how well they *actually* did. Previous research has identified effort put into goal pursuit as a variable that is affected by goal concordance therefore analyses began with hierarchical regressions examining expected effort (Time 1) and actual effort (Time 2). At Time 1, participants expected to put more effort into their concordant goals ( $\beta = .36, p < .001$ ) but effort did not differ significantly between conditions ( $\beta = -.12, p = .12$ ) and there was no interaction ( $\beta = -.01, p = .91$ ). A separate hierarchical regression equation

predicting Time 2 effort controlling for Time 1 effort ( $\beta = .30, p = .001; R^2 = .09$ ), however, revealed that the main effect for concordance was not durable ( $\beta = -.01, p = .91$ ) nor was there a main effect for condition ( $\beta = -.04, p = .66; R^2$  change = .002, n.s.) and that actually concordance interacts with condition to predict Time 2 effort ( $\beta = .26, p = .04; R^2$  change .04,  $p = .04$ ; overall  $R^2 = .13$ ). As Figure 4 shows, the positive relationship between concordance and effort is durable only for those who were instructed at Time 1 to list their goals based on gut feelings ( $\beta = .20, p = .12$  compared to  $\beta = -.21, p = .13$  for the rational condition).

The same pattern of analyses was also conducted on the Time 1 item of “how well do you expect to do” compared to the Time 2 item of “how well have things been going.” Results of the hierarchical regressions generally confirmed the pattern of findings for anticipated effort compared to actual effort. Specifically, at Time 1 there were main effects for both concordance and condition with participants expecting to do better at concordant goals ( $\beta = .39, p < .001$ ) and with the participants assigned to the rational condition expecting to do better than those in the gut condition ( $\beta = -.17, p = .02$ ); there was no interaction. At Time 2 however, controlling for Time 1 expectation ( $\beta = .26, p = .004; R^2 = .26$ ), the main effects for concordance and condition were no longer present ( $\beta = .05$  and  $\beta = .06$  respectively;  $R^2$  change = .006, n.s.) but there was a concordance by condition interaction ( $\beta = .30, p = .02; R^2$  change = .04,  $p = .02$ ; overall  $R^2 = .12$ ). As shown in Figure 5, the pattern of the interaction conformed to the pattern for effort with the positive relationship between concordance and doing well being durable only for those who were instructed to follow their gut at Time 1 ( $\beta = .17, p = .17$  compared to  $\beta = -.12, p = .42$  for the rational condition).

## Chapter 6

### DISCUSSION

In general, these studies clearly demonstrated the importance of considering intuitive vs. rational goal derivation within the framework of the self-concordance model of goal pursuit (Sheldon & Elliot, 1999). Study 1 showed that listing more goals that were being pursued based on a gut feeling was related to fewer depressive symptoms and higher self-concordance scores. Furthermore, it was the gut derivation of goals that was the strongest predictor of depressive symptoms, not the self-concordance of goals. Study 2 showed that concordance can actually be increased simply by telling people to follow their gut. When people were randomly assigned to receive either the instructions to “follow your gut” or to “be very rational,” those who were instructed to follow their gut listed significantly more self-concordant goals. While those told to follow their gut did not think they would do any better or put more effort into their goals they did report at the end of the semester that they dreaded pursuing their goals less and found their goals to be slightly more enjoyable than those in the rational condition. This finding makes sense because there was also a tendency for those in the gut condition to list more goals containing intrinsic content whereas those in the rational condition tended to list goals containing more extrinsic content. As research has continually demonstrated, pursuing intrinsic goals is simply more fun and as Study 2 showed, following one’s gut may be one way to unlock the power of intrinsic motivation.

#### Goals, Self-Concordant Goals, and Gut Feelings: Not All Goals Are Created Equal

One particularly interesting finding uncovered in Study 2 is that not all concordant goals are created equally. Regarding the outcome variables of goal

attainment and depressive symptoms there were no main effects for condition or concordance but there was an interaction. The pattern of the interaction for both goal attainment and depressive symptoms indicated that concordance is most important for those who listed their goals based on a gut feeling. In other words for concordance to be beneficial, goals must have come from the right place (i.e., one's gut) and it is not a given that just because a goal is concordant it is coming from a place akin to Rogers' organismic valuing process.

While previous research has tended to find that the attainment of concordant goals is particularly important for well-being (Sheldon & Houser-Marko, 2001), this interaction took on an interesting pattern in the present research. For those who followed their gut in the original goal listing at Time 1 the attainment of highly concordant goals did not impact depressive symptoms, but when participants who were instructed to follow their gut failed to list highly concordant goals, attainment did predict the presence of depressive symptoms at Time 2. This finding demonstrates the consequence of experiencing an apparent "gut malfunction" i.e., when following one's gut does not lead to self-concordant goals.

One specific way in which following one's gut can malfunction and put individuals at risk for experiencing depressive symptoms as a result of lack of goal attainment is when one has a gut feeling directing them towards the pursuit of wealth and material possessions. While some research has shown that valuing such extrinsic rewards is only problematic when such rewards are valued more than intrinsic pursuits (Kasser & Ryan, 1993; 1996), it appears that another way in which such extrinsic values can be problematic is when a person feels a strong gut feeling towards them.

When one's gut is functioning adaptively, it leads people towards those goals that represent deep, internal, and personally important strivings where well-being is not contingent upon performance. But when one's gut malfunctions and individuals are led to extrinsic goals, well-being is contingent on performance. This pattern may be related to the concept of contingent self-esteem, or when one's self-esteem is contingent upon how well things are going in life (Kernis, Paradise, Whitaker, Wheatman, & Godman, 2000). Kernis and colleagues have outlined a number of ways in which contingent self-esteem is bad, including focusing on threatening aspects of a situation (Kernis et al, 1998), increased depression when faced with hassles (Kernis, et al, 1998), greater anger and hostility (Kernis, Grannemann, & Barclay, 1989), and greater self-doubt in response to failure (Kernis, Cornell, Sun, Bettry, & Harlow, 1993). When one's gut is functioning as it should, it may serve to prevent such contingencies of self-worth but, conversely, when following one's gut does not lead to intrinsic pursuits, then one may be at risk for such contingent self-esteem and/or well-being.

#### A Layperson's Understanding of Goal Selection and Pursuit

The present research also found that there tended to be an undervaluing of gut feelings and an overvaluing of concordance by participants. Based on the expectation measures taken at the beginning of the semester and the reports of how things actually went at the end of the semester, there were some inconsistencies. This discrepancy is interesting because while most people understand what it means to follow your gut, most people probably don't understand the differences between intrinsic, identified, introjected, and extrinsic motivation. Yet when people list concordant goals they seem to

get the idea that those are good goals but unfortunately, for the most part, didn't understand the connection between concordant goals and gut feelings.

Specifically, people expected that concordant goals would go better but harbored no such expectation for goals derived from the gut. At the end of the semester, however, it was not concordance that was important, at least not in the straightforward way that was expected by participants. Rather the expectation of doing well at concordant goals only held up at Time 2 for those goals that were derived from the gut. This finding shows that while rationally derived goals can be self-concordant, the long term benefits of pursuing concordant goals are greatest for those goals that are derived from the gut.

It may be the case that people feel irresponsible when they follow their gut and therefore don't expect things to work out particularly well when they do so. When faced with difficult decisions people often make a list of pros and cons, which, not coincidentally, is a very rational activity. After all when it comes time to explain to a friend why you are doing the crazy thing you're doing, it seems better to have some reasonable explanation for your actions. And while it may make such a conversation with a concerned friend go more smoothly, the present findings suggest that the wise course of action may be to simply follow your gut and not get too bogged down in rational minutia like lists of pros and cons.

The general finding of this research is that it's typically a good idea to follow your gut. It is important, however, to consider that the previous statement applies only to the derivation of goals that are going to be pursued in the near future and not the actual pursuit per se. Put another way, when it comes time to brainstorm what goals an individual wants to pursue, the present research indicates that it is a good idea to just

follow one's gut. But when it comes time to actually pursuing the goal and setting and engaging in a plan of action, the present data do not speak to the best method to engage in such pursuit. It may be the case that, while following one's gut is good for the creation of goals, a rational approach may be necessary for the pursuit of the goals. After all, successful goal pursuit often involves rationally breaking down a big goal into smaller, more manageable goals and then carefully planning a schedule and course of action that will facilitate goal attainment. The direction towards intrinsic values provided by gut feelings is important but so might be the logical, reasonable plans of action that can be worked out rationally.

#### Limitations and Future Directions

One limitation to consider is the fact that there is no way to know all of the goals participants were pursuing. In Study 1 we only know the first 7 goals that came to mind and in Study 2 we only know the first 5 that met the requirements listed in the instructions (i.e., gut vs. rational derivation). It may be that people randomly assigned to the rational condition had a few goals they felt in their gut were good goals and they may have even pursued those throughout the semester but since they were not listed at Time 1, progress on those goals was not measured at Time 2. The pursuit of goals not measured surely had unknown influence on the results. Presumably random assignment procedures mitigated such effect somewhat but it still worth considering whether the actual goals listed differed or if it was just the way in which the goals were framed that differed (i.e., as coming from the gut or as being very rational). To the extent that the relationship between Rogers' organismic valuing process and gut feelings exists and is strong, then one would expect that these effects are not simply framing effects but are indeed due to

listing qualitatively different goals. Future research however should explore the existence of framing effects and how or if it differs from the qualitative nature of the goals.

Another direction for future research involves the supposed “gut malfunctions” found in Study 2 where some people followed their gut but listed relatively non-concordant goals which made their well-being contingent upon goal performance. To refer back to the Rogers’ quote that “...doing what ‘feels right’ proves to be a competent and trustworthy guide to behavior which is truly satisfying” (Rogers, 1961; p. 189), some participants were doing what “felt right” but were not being led to truly satisfying experiences, or at least not according to the SDT definition of what should be satisfying (i.e., valuing intrinsic motivation over extrinsic motivation).

How to facilitate intrinsic motivation in those who can’t find it by following their gut is a question for future research. Any number of factors could conceivably interfere with such an abstract, intangible process such as gut feelings. It may be the case that culture (particularly a capitalist culture supported by materialistic rewards) is having an undue influence on goals. Or it may be something as simple as youthful naïveté. Many of the participants in this study were teenagers and the teenage cohort is not exactly well known for having strong sense of identity, purpose, and intrinsic values. Perhaps as people mature, all people move towards an intrinsic orientation based on a reliance on gut feelings.

It is certainly a limitation of the present research that the samples in both studies were relatively homogenous. Most participants were Caucasian, about 19 years old, and, presumably at least, from relatively similar backgrounds (e.g., middle class and

Midwestern United States). While cultural differences in the tenets of SDT have been studied and found to be relatively universal (Chirkov, Ryan, Kim, & Kaplan, 2003; Grouzet, et al., 2005), cultural, racial, or age differences in gut feelings is a largely unstudied area. Some cultures may actively discourage (or actively encourage) making decisions based on gut feelings therefore the manipulation applied in Study 2 could have drastically different effects depending on the culture participants most identify with.

### Conclusion

The self-concordance model of goal pursuit is a strong psychological model. But the present research has shown that derivation based on a gut feeling or based on a rational approach must also be considered. While pursuing concordant goals is undoubtedly a positive thing for both attainment and well-being, for these effects to be durable the concordant goals must be felt in the gut. People tend to underestimate the value of gut feelings but it appears that such feelings may indeed be the key to optimal functioning.

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Table 1

Correlations and Descriptive Statistics (Study 1)

	Concordance	% gut feeling	Dep. symptoms
% gut feeling	.37**		
Dep. symptoms	-.22 <sup>†</sup>	-.29*	
Mean	6.88	.52	6.08
SD	6.50	.20	4.39

Note: \*\*p<.01; \*p<.05; <sup>†</sup>p<.10

Table 2

Correlations and Descriptive Statistics (Study 2)

		Time 1													
		Condition	Concord.	Dep. Sympt.	Well	Effort	Import.	Difficult	Relationships	Meaning	World better	Admir-ation	Attrac-tive	Money	
Time 1	Concord.	.17*													
	Dep. Sympt.	.04	-.16*												
	Well	-0.11	.36**	-.31**											
	Effort	-0.05	.34**	-.21**	.60**										
	Import.	-0.01	.20**	-.08	.44**	.53**									
	Difficult	-0.07	-.04	.17*	-.02	.09	.14†								
	Relationships	.17*	.12	-.002	.17*	.20**	.24**	.06							
	Meaning	.13†	.20**	-.04	.30**	.32**	.50**	.16*	.50**						
	World better	.09	.13†	-.11	.25**	.18*	.26**	.10	.52**	.48**					
	Admiration	-.02	-.01	-.06	.20**	.13†	.35**	.22**	.45**	.43**	.56**				
	Attractive	-.003	.08	-.03	.09	.05	.12	.04	.31**	.18*	.38**	.50**			
	Money	-.16*	-.21**	-.03	.09	.18*	.25**	.06	.16*	.26**	.29**	.46**	.26**		
Time 2	Attain	-.008	-.04	-.13	-.01	.06	.02	-.02	-.02	-.09	.06	-.14	-.11	.05	
	Dep. Sympt.	0.15	-.15	.74**	-.28**	-.06	.11	.17†	.02	.05	-.12	.03	-.02	.12	
	Well	0.02	.13	-.19*	.26**	.23**	.08	-.20*	.08	.08	.13	-.16†	-.09	-.05	
	Effort	-0.09	.007	-.28**	.32**	.26**	.10	-.19*	-.02	.10	.13	.07	-.02	.14	
	Import.	0.09	.04	-.07	.23*	.25**	.40**	.04	.19*	.36**	.15	.25**	.09	.20*	
	Difficult	-0.04	-.11	.09	-.11	.07	.09	.50**	-.001	.08	.05	.10	.11	.13	
	Dread	-.22*	-.46**	.07	-.09	-.19*	.04	.20*	-.18†	-.08	-.12	.11	.17†	.24**	
	Enjoy	.16†	.23**	-.18†	.31**	.35**	.14	-.09	.19*	.20*	.25**	.19*	.04	.05	
	Relationships	-.06	.01	-.19*	.10	.15	.14	.03	.46	.18*	.28**	.26*	.07	.18*	
	Meaning	-.07	.02	-.28**	.19*	.13	.09	-.10	.27**	.27**	.32**	.30**	.26**	.22*	
	World better	.07	.01	-.18*	.28**	.17†	.19*	-.06	.34**	.19*	.40**	.27**	.09	.12	
	Admiration	-.15	-.09	-.12	.19*	.13	.15	.03	.24**	.15†	.27**	.37**	.13	.26**	
	Attractive	.002	-.18*	-.02	.13	.08	.12	.03	.17†	.09	.19*	.27**	.27**	.22*	
	Money	-.18*	-.20*	-.03	.07	.003	-.05	.17†	.06	.06	-.03	.21*	.15†	.20*	
		Mean	.50	9.35	12.35	7.00	7.49	7.85	6.11	5.46	7.02	4.88	5.47	4.73	5.68
		SD	.50	6.17	8.81	1.05	1.07	.90	1.29	1.64	1.39	1.91	1.94	2.09	1.86

Note: Table continued on next page.

Table 2 (continued)

		Time 2													
		Attain	Dep. Sympt.	Well	Effort	Import.	Difficult	Dread	Enjoy	Relation- ships	Meaning	World better	Admir- ation	Attrac- tive	Money
Time 1	Concord.														
	Dep. Sympt.														
	Well														
	Effort														
	Import.														
	Difficult														
	Relationships														
	Meaning														
	World better														
	Admiration														
	Attractive														
	Money														
	Time 2	Attain													
Dep. Sympt.		-.25**													
Well		.65**	-.27**												
Effort		.49**	-.25**	.68**											
Import.		.29**	.04	.39**	.49**										
Difficult		-.02	.07	-.11	-.03	.15									
Dread		-.13	.11	-.31**	-.06	-.10	.23**								
Enjoy		.31**	-.25**	.46**	.39**	.46**	.04	-.40**							
Relationships		.28**	-.20*	.21*	.21*	.21*	.008	-.14	.35**						
Meaning		.13	-.30**	.20*	.25**	.20*	-.06	-.11	.39**	.63**					
World better		.20*	-.15	.29**	.32**	.21*	.10	-.12	.31**	.59**	.59**				
Admiration		.26**	-.10	.22*	.36**	.21*	.11	.02	.28**	.50**	.57**	.65**			
Attractive		.16&	.06	.21*	.25**	.22*	.04	.13	.19*	.31**	.47**	.55**	.68**		
Money		.18&	-.02	.14	.20*	.14	.15&	.22*	.11	.22*	.33**	.31**	.45**	.48**	
Mean		4.97	13.71	5.90	6.24	7.27	5.84	3.37	5.71	5.38	5.85	4.03	4.53	4.35	4.39
SD	1.69	9.49	1.27	1.16	1.16	1.31	1.59	1.49	2.25	2.08	2.14	2.09	2.37	2.70	

Note: \*\*p<.01; \*p<.05; †p<.10; Concord = concordance; Dep. Sympt. = depressive symptoms; Well, Effort, Import., Difficult, Dread, Enjoy each refer to their corresponding goal process items; Import. = importance; Relationships, Meaning, World better, Admiration, Attractive, and Money each refer to their corresponding intrinsic/extrinsic goal content items.

Figure 1

Attainment as a Function of Condition and Concordance

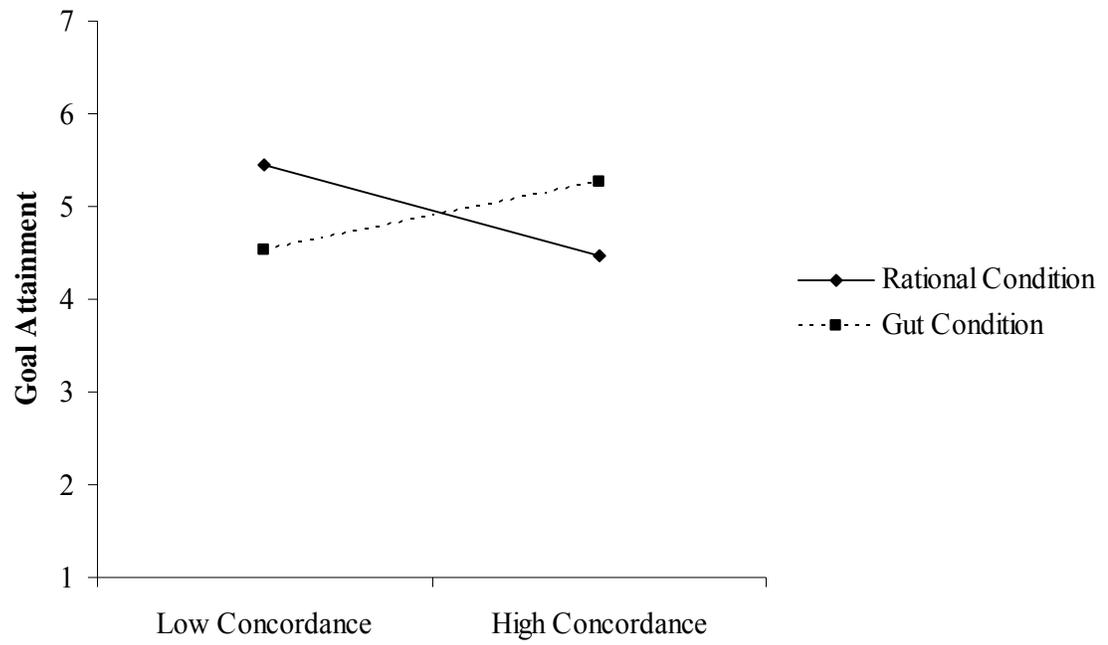


Figure 2

Depressive Symptoms as a Function of Condition and Concordance

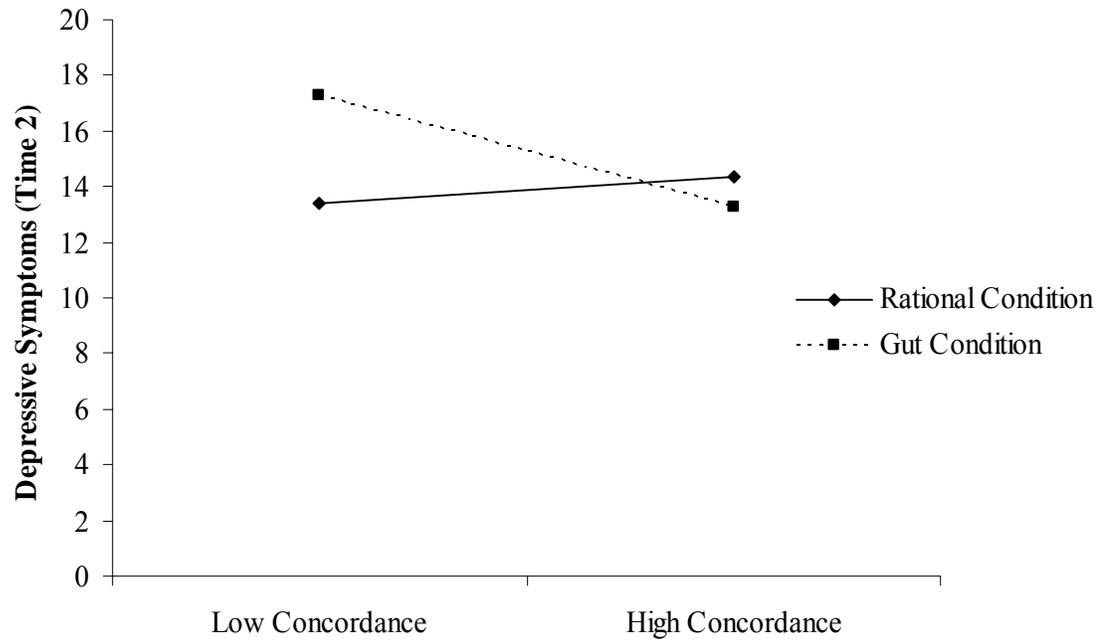
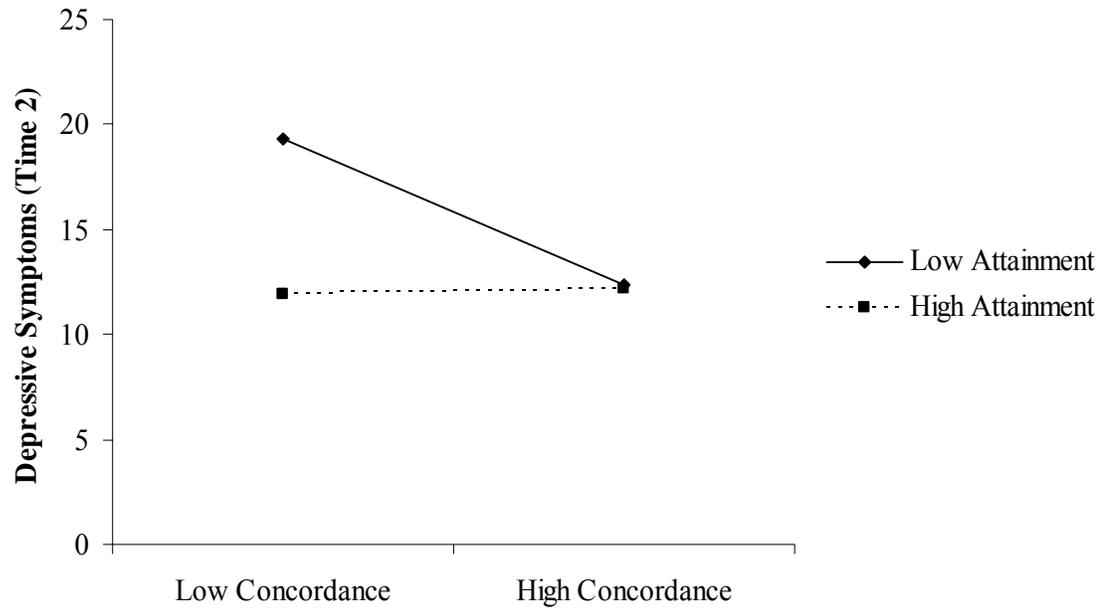


Figure 3

Depressive Symptoms as a Function of Condition, Concordance, and Attainment



Note: Generated means are from the gut condition only.

Figure 4

Goal Effort as a Function of Condition and Concordance

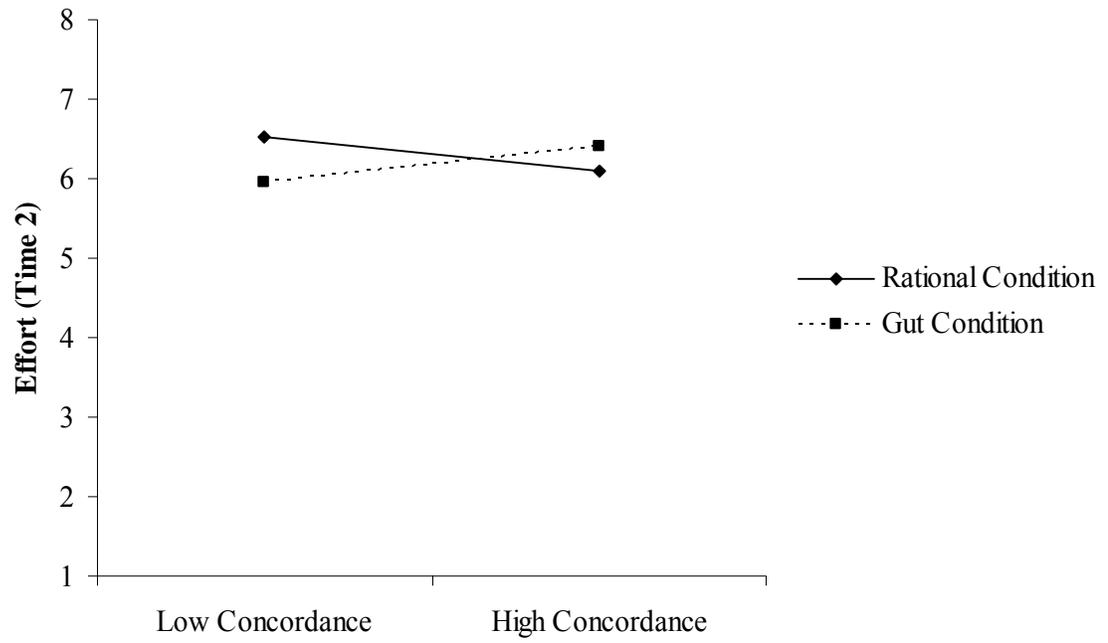
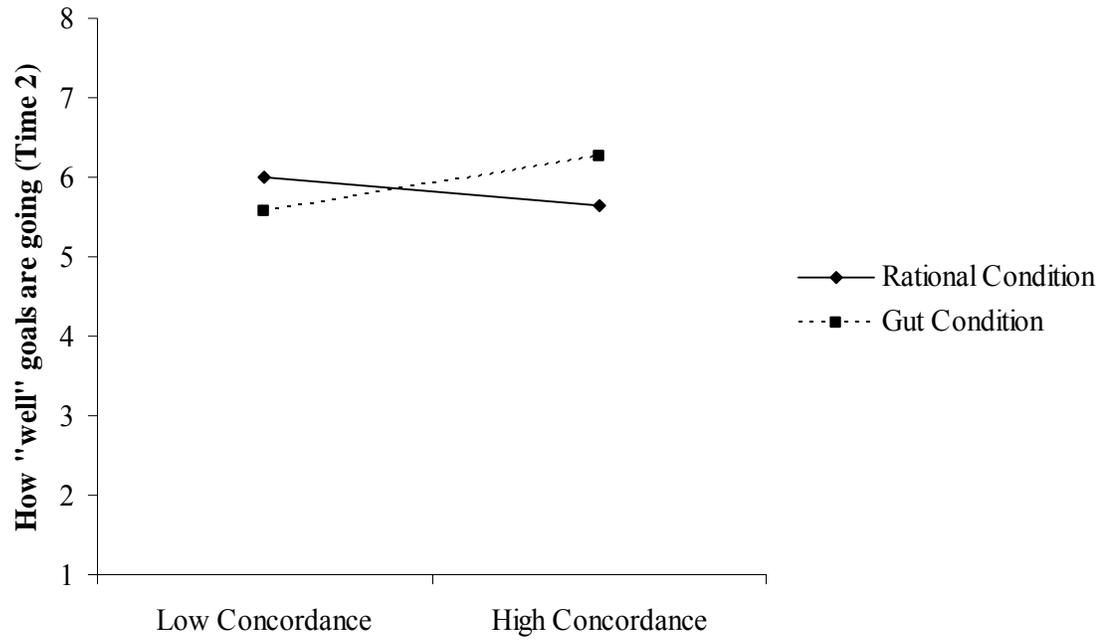


Figure 5

Goal Progress as a Function of Condition and Concordance



## VITA

Chad Burton is the son of Jan and Richard Burton and was born in Independence, Missouri in 1980. After completing high school in Indiana, Chad attended Southern Methodist University in Dallas, Texas where he received his B.A. in 2002. Chad received his M.A. from the University of Missouri in 2005 and his Ph.D. from the University of Missouri in 2008.