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Relations Among Goal Orientation, Well-Being Outcomes, and the Tendency to Engage in Risky Behaviors in Undergraduates

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Abstract

This research investigates the self-determination theory (SDT) and match perspective, two conflicting theories explaining the relationships among goal orientation, well-being outcomes, and the tendency to engage in risky behaviors. Past research supporting SDT has indicated that intrinsic goal orientation and autonomous regulation are essential to achieving optimal well-being outcomes and less engagement in risky behaviors. Conversely, other studies suggest that the "matching" of environmental goal orientation and personal goal orientation ensure optimal well-being outcomes and reduced engagement in risky behaviors. The present research examined goal orientation through the lens of both theories in an undergraduate sample. Following SDT, it was hypothesized that individuals who are more intrinsically goal oriented will report higher well-being outcomes and less risky drug and alcohol behaviors. The second hypothesis was based on the match perspective and hypothesized that smaller differences between perceived environmental goal orientation and personal goal orientation will be associated with better well-being outcomes and less risky drug and alcohol behaviors. Results provided limited support for SDT and no support for the match perspective. Additionally, patterns of greater perception of extrinsic environmental goal orientation despite greater reported intrinsic personal goal orientation were explored. Limitations to this study, such as unbalanced sample composition, are discussed.

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Research suggests that achieving a goal is beneficial to psychological well-being as it provides a sense of accomplishment (Sheldon & Kasser, 1998). However, recent evidence has revealed that perhaps not all goals or motivation orientations are beneficial (Kasser & Ahuvia, 2002; Niemiec, Ryan, & Deci, 2009). Beneficial goal orientation results in psychological well-being, which is indicated by personal growth, environmental mastery, positive relationships, life purpose, self-acceptance, and autonomy (Ryff & Singer, 1998). Two prominent theories, the self-determination theory (SDT) and the match perspective, provide conflicting explanations for the relationship between goal orientation and psychological well-being. According to SDT, psychological well-being is dependent on the satisfaction of autonomy, competence, and relatedness, known as the three basic psychological needs. Theoretically, the three psychological needs are more likely to be met through the pursuit of intrinsic goals compared to extrinsic goals. (Ryan & Deci, 2000a, 2000b). Conversely, the match perspective posits that greater psychological well-being is achieved when personal goal orientation and environmental goal orientation "match" (Sagiv & Schwartz, 2000). The match perspective suggests that individuals pursuing intrinsic goals will have greater well-being in an environment that values intrinsic goals over extrinsic goals. Individuals pursuing extrinsic goals will have greater well-being in environments that value extrinsic goals over intrinsic goals. Thus, according to the match perspective, alignment of personal goal orientation and environmental goal orientation facilitate greater well-being.

Recently, research has been conducted to examine these conflicting theories and better understand psychological well-being in relation to goal orientation (Kasser & Ahuvia, 2002;

Vansteenkiste, Timmermans, Lens, Soenens, & Van den Broeck, 2008). The current study

investigates which of these two theories better explains the relationships between goal

orientation, physical and psychological well-being, and the tendency to engage in risky behaviors

in a sample of undergraduate students. To better understand the distinction between the two

theories, each theory is explained in depth.

Theoretical Framework

Self-Determination Theory

SDT posits that goal and motivation orientation matter and affect well-being. According

to SDT, optimal performance and well-being occur when the three basic psychological needs are

fulfilled. The three basic psychological needs include relatedness, competence, and autonomy.

Relatedness refers to developing meaningful connections and feeling accepted by others.

Competence involves a sense of self-efficacy, and autonomy refers to the degree that one's

behavior is self-regulated and free from external influence. SDT posits that these needs (i.e.,

relatedness, competence, and autonomy) are more likely to be satisfied when individuals are

autonomously motivated to achieve intrinsic goals compared to extrinsic goals (Ryan & Deci,

2000a).

Goals are categorized by framing them as either intrinsic or extrinsic (Vansteenkiste et

al., 2008). According to SDT, extrinsic goals include aspirations such as seeking popularity or

financial success, while intrinsic goals include aspirations such as self-acceptance and deep

friendships. Intrinsic goals are typically associated with autonomous and internalized regulation.

Autonomous regulation refers to high self-regulation and freedom from external pressures while

controlled regulation refers to actions that are driven by external forces (Ryan & Deci, 2000b).

With internalized regulation, social values become personal values, and the individual is

autonomously motivated to achieve a particular goal. For example, consider an individual who

wants to lose weight. If the weight loss is framed as an intrinsic goal driven by the desire to

improve physical health and external sources are not influencing the individual, the individual is

demonstrating autonomous motivation and internal regulation. In this case, the opportunity for

self-direction and choice along with the desire to improve physical health results in autonomous

motivation and internalized regulation (Ryan & Deci, 2000a). However, not all intrinsic goals

are associated with autonomous motivation and internalized regulation. While less common, it is

possible for controlled motivation and externalized regulation to be associated with intrinsic

goals. For example, consider if an individual frames weight loss as an intrinsic goal and wants to

promote physical health, yet is motivated by the desire to receive approval from others. In this

example, the motivation is not internalized or completely autonomous, yet the goal is still

intrinsic. Thus, it is possible for externalized and controlled regulation to be utilized in the

pursuit of intrinsic goals. Similarly, it is possible for internalized and autonomous regulation to

be utilized in the pursuit of extrinsic goals (Ryan & Deci, 2000a, 2000b). For example, the

pursuit of the extrinsic goal to lose weight and appear attractive to potential partners could be

driven by autonomous and internalized regulation if the individual engaged in healthy behaviors

because they were inherently enjoyable.

 Despite the fact that extrinsic goals can become internalized and therefore autonomously

motivated, SDT suggests that both intrinsic goal framing and autonomous regulation result in

more positive outcomes compared to extrinsic goal framing and controlled regulation. The

pairing of intrinsic goal framing and autonomous regulation has the greatest likelihood of

satisfying the three basic psychological needs, resulting in the best well-being outcomes.

Conversely, the combination of extrinsic goal framing and controlled regulation result in the

worst well-being outcomes, as the three basic psychological needs are less likely to be satisfied (Ryan & Deci, 2000a, 2000b). In other words, intrinsic goal framing and autonomous regulation produce greater well-being when together, but can still be powerful when one is absent. Poor well-being occurs when both intrinsic goal framing and autonomous regulation are absent.

Research supports the SDT hypothesis that extrinsic goals and controlled regulation lead to lower levels of well-being. For example, those pursuing extrinsic as opposed to intrinsic goals report higher levels of negative outcomes including a greater tendency to engage in risky behaviors (Kasser & Ahuvia, 2002; Kasser & Ryan, 1993; Knee & Neighbors, 2002; Niemiec et al., 2009; Williams, Cox, Hedburg, & Deci, 2000), a greater vulnerability to drug and alcohol abuse (Kasser et al., 2004; Vansteenkiste et al., 2008), poor social adjustment (Kasser et al., 2004), less self-actualization, greater rates of depression (Kasser & Ryan, 1993), and poor well-being (Sheldon, Ryan, Deci, & Kasser, 2004). Researchers argue that pursuing extrinsic goals leads to poorer psychological well-being because it causes lower relationship quality (Kasser & Ryan, 2001; Sheldon et al., 2004), the violation of personal principles, negative social comparisons (Niemiec et al., 2009), and feelings of insecurity and being (Sheldon et al., 2004). Conversely, research has revealed that those pursuing intrinsic goals report better physical health, lower stress levels, and decreased physical symptoms of illness (Baker, 2004). Overall, SDT proponents hold that the pursuit of intrinsic goals, compared to extrinsic goals, is associated with greater psychological and physical well-being, and lower risky behavior rates (Niemiec et al., 2009; Sheldon et al., 2004; Vansteenkiste et al., 2008; Williams et al., 2000).

The Match Perspective

Another important theory, which is at odds with SDT, is the match perspective. The match perspective posits that individuals maintain high levels of well-being if their personal goal

orientation "matches" or is consistent with the environmental goal orientation, defined as the dominant goal orientation of members of one's community (Sagiv & Schwartz, 2000). The match perspective suggests individuals find more success when environmental goal orientation matches their personal goal orientation for three reasons. First, the alignment of personal goal orientation and environmental goal orientation make it easier to achieve goals and receive social support. Next, when personal goal orientation and environmental goal orientation do not match, one may experience interpersonal difficulties (e.g., feeling ignored, ostracized, rejected, etc.), which negatively affect well-being and a sense of relatedness. Thirdly, individuals may experience an internal conflict when their goal orientation does not match the environmental goal orientation (Sagiv & Schwartz, 2000). Research supporting the match perspective suggests that the alignment of personal goal orientation and environmental goal orientation leads to optimal well-being outcomes and greater personal growth (Dysvik & Kuvaas, 2013; Sagiv & Schwartz, 2000).

The Controversy

SDT and the match perspective present conflicting hypotheses. Past studies have attempted to test the theories and clarify the relationship between personal goal orientation and environmental goal orientation (Kasser & Ahuvia, 2002; Sagiv & Schwartz, 2000; Vansteenkiste et al., 2008). In an experimental field study, Vansteenkiste and his colleagues (2008) examined how personal goal orientation and induced goal framing affected learning outcomes during an activity. The participants, consisting of 5th and 6th grade students, initially completed a survey to identify their personal goal orientation before receiving activity instructions intended to frame the goal of the activity as either intrinsic or extrinsic. The induced goal framing activity was akin to environmental goal orientation by suggesting the activity endorsed either intrinsic or

extrinsic values. Each participant independently read one of the two versions of the instructions before engaging in the same activity. Participants in the intrinsic goal-framing condition read that the activity would teach them how to help others. Conversely, participants in the extrinsic goal framing condition read that the activity would help them attain the goal of being admired by others. The results indicated that regardless of personal goal orientation, all participants placed in the intrinsic goal condition demonstrated greater conceptual learning, persistence, and autonomous motivation (Vansteenkiste et al., 2008). Therefore, Vansteenkiste and his colleagues (2008) confirmed the hypothesis of SDT and not the match perspective.

Another study that supports SDT evaluated well-being outcomes in Singaporean business students (Kasser & Ahuvia, 2002). Kasser and Ahuvia (2002) assumed that both the Business department and the Singaporean society place greater emphasis on the pursuit of extrinsic goals relative to intrinsic goals (Kasser & Ahuvia, 2002). The researchers found that Singaporean business students pursuing extrinsic goals reported lessened self-actualization, vitality, happiness, and greater anxiety, physical symptoms, and unhappiness. Kasser & Ahuvia (2002) challenged the match perspective and suggested that the congruence between personal and environmental goal orientation does not always mitigate adverse effects associated with the pursuit of extrinsic goals.

The match perspective was first introduced in a study examining goal orientation in a sample of business and psychology students (Sagiv & Schwartz, 2000). Sagiv and Schwartz (2000) assumed that students believed that the Business Department prioritized extrinsic goals and the Psychology Department prioritized intrinsic goals. The researchers found that well-being and the pursuit of extrinsic goals correlated positively for the business students but negatively for the psychology students (Sagiv & Schwartz, 2000). These results contradict SDT

because the pursuit of extrinsic goals was not correlated with negative well-being outcomes for the business students. Sagiv and Schwartz (2000) argued that the psychology students experienced negative well-being outcomes because of the incongruence between personal goal orientation and environmental goal orientation. This study provides support for the match perspective, which posits that the alignment of personal goal orientation and environmental goal orientation results in optimal well-being (Sagiv & Schwartz, 2000).

The Present Research

Given the conflicting literature, the proposed study will further clarify the relationships between personal goal orientations, perceived environmental goal orientations, psychological and physical well-being outcomes, and risky alcohol and drug consumption. In this study, the environment refers to the campus community members (i.e., peers and faculty). The current research builds on the work of Vansteenkiste and his colleagues (2008) by developing a measure to directly assess if individuals experience a "mismatch" between their personal goal orientation and perceived environmental goal orientation. Further, goal orientation is considered in various contexts (i.e., academic major, leisure time, and extracurricular activities).

Additionally, the present study addresses the shortcomings of past studies. Past studies have made assumptions about perceived environmental goal orientation, rather than measuring it explicitly (Vansteenkiste et al., 2008). The present study asks participants to indicate their perception of environmental motivation rather than assume their perception.

Hypotheses

The following two competing hypotheses were tested. Following SDT, it is anticipated that individuals who score higher on the Personal Goal Orientation Scale, indicating greater intrinsic goal orientation, will report higher psychological and physical well being, and less risky

drug and alcohol behaviors. The second hypothesis is based on the match perspective and posits that smaller differences between perceived environmental goal orientation and personal goal orientation will be associated with higher psychological and physical well being, and less risky drug and alcohol behaviors.

Method

Participants

The initial sample included 130 participants. However, only 88 participants completed at least one of the outcome variables in the survey and thus remained in the sample. The final sample size was 88 undergraduate students (75% female; 87.5% white) at a private university in the Northeast between the ages of 18-22. Participants were recruited on a volunteer basis and via email from an introductory psychology course and various student organizations. Participants in the introductory psychology course received credit towards a course research participation requirement.

Measures

All of the measures can be found in the appendices.

Perceived Environment Goal Orientation. I adapted the Aspiration Index (Kasser & Ryan, 1996) to assess participants' perceptions of how much their peers valued intrinsic versus extrinsic goals in each of the three domains: academic major, leisure time, and extracurricular activities. To assess perceptions of how much their peers valued intrinsic versus extrinsic goals when choosing an academic major, six items were adapted from the Aspiration Index and participants rated the importance of each item using a 6-point scale ranging from 1 (*not at all important*) to 6 (*extremely important*).   There were three extrinsic items and three intrinsic

items. A sample extrinsic item was "They desire future financial wealth" and a sample intrinsic item was "They have an inherent interest in the subject".

Perceptions of how much their peers valued intrinsic versus extrinsic goals when deciding how to spend their leisure time was measured by rating the importance of two extrinsic items and two intrinsic items using a 6-point scale ranging from 1 (*not at all important*) to 6 (*extremely important*). A sample extrinsic item was "They want to become more popular and admired among their peers by gaining social approval" and a sample intrinsic item was "They inherently enjoy the activity".

To assess perceptions of how much their peers valued intrinsic versus extrinsic goals when choosing to participate in an extracurricular activity, participants rated three extrinsic items and three intrinsic items using a 6-point scale ranging from 1 (*not at all important*) to 6 (*extremely important*). A sample extrinsic item was "They feel pressured to engage in the activity to live up to societal/ community expectations" and a sample intrinsic item was "They want to make meaningful connections with others".

Scores for each domain (i.e., academic major, leisure time, and extracurricular activities) were computed by finding the difference between the summed intrinsic items and summed extrinsic items. Higher scores indicate greater endorsement of intrinsic goals.

Personal Goal Orientation. The same method used to assess perceived environmental goal orientation was used to assess personal goal orientation except that participants rated their own motivation as opposed to their peers' motivation.

Satisfaction with Life. Two scales were used to assess each participant's psychological well-being; the first being the satisfaction with life scale (SWLS) (Pavot & Diener, 2008). This scale has high internal consistency (Cronbach $\alpha = .79$) and test-retest reliability ($r = .83$)

(Abdallah, 1998). The SWLS is composed of five statements on which participants indicate their agreement using a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample statements include "In most ways, my life is close to my ideal" and "If I could live my life over, I would change almost nothing".

Positive and Negative Affect. The second scale used to assess psychological well-being was the Positive and Negative Affect Schedule (PANAS) (Crawford & Henry, 2004). In a sample of 1,003 adults, Cronbach alphas revealed good reliability for both positive affect (PA) (α= .89) and negative affect (NA) (α= .85) (Crawford & Henry, 2004). Further, results supported the construct validity of PA and NA scales with the Depression Anxiety and Stress Scale (Lovibond & Lovibond, 1995) (r = -.48, p < .01 and r = .60, p < .01, respectively and with the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983) (r = -.31, p < .01, and r = .65, p < .01, respectively) (Crawford & Henry, 2004).   The scale consists of 20 items that are used to describe various feelings and emotions (e.g., "irritable", "guilty", etc.). Ten of the items are associated with positive affect and ten are associated with negative affect. For each item, participants indicated the extent to which they experienced the emotion over the past week using a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Negative affect scores were computed by summing the scores for the ten negative items, and positive scores were computed by summing the scores for the ten positive items.

Physical Well-being. Physical well-being was assessed using the Somatic Symptom Scale-8 (SSS-8) (Gierk et al., 2014). In a general sample of people over 13 years of age, the scale was shown to have strong reliability (Cronbach α = 0.81) (Gierk et al., 2014). Construct validity was supported by correlations between the SSS-8 and the PHQ-2 depressions scores (r =.55) and ratings of general health status (r = - .24) (Gierk et al., 2014).   The scale includes

eight items describing physical symptoms. Participants indicated how often they experienced the

eight items in the past week using a 5-point scale ranging from 0 (*not at all*) to 4 (*very much*).

Sample items of physical symptoms included "stomach or bowel problems", "dizziness", and

"headaches".

    Risky Alcohol Behaviors. The Alcohol Use Disorders Test-3 (AUDIT-3) (Bush,

Kivlahan, McDonell, et al., 1998) was used to evaluate alcohol consumption. This measure

shows good internal consistency (Cronbach $\alpha = .85$) and good test-retest reliability ($r = .88$)

(Daeppen, Yersin, Landry, Pécoud, & Decrey, 2000). Participants answered three questions

assessing the amount and frequency of alcohol consumption. Sample items to assess amount

include "How many standard drinks containing alcohol do you have on a typical day?" Sample

items to assess frequency are as follows: "How many standard drinks containing alcohol do you

have on a typical day?" and "How often do you have a drink including alcohol?"

    Risky Drug Behaviors. The Drug Use Disorders Identification Test (DUDIT) (Berman,

Bergman, Palmstierna, Schlyter, 2002) was used to assess the frequency and negative

implications of drug consumption. In a clinical sample, the DUDIT had high convergent validity

($r = .85$) when compared with the Drug Abuse Screening Test (DAST-10), and high reliability

(Cronbach $\alpha = .94$) (Voluse, Gioia, Sobell, Dum, Sobell, & Simco, 2012). The 11-question drug

use scale asks respondents to rate the frequency of drug use and negative implications from

"never" to "daily or almost daily". Sample questions assessing frequency include "How often do

you use drugs other than alcohol?" and "How often over the past year have you had guilt feelings

or a bad conscience because you used drugs?" Sample questions assessing negative implications

include "Has a relative or friend, a doctor or nurse, or anyone else, been worried about your drug

use or said to you that you should stop using drugs?" and "Have you or anyone else been hurt (mentally or physically) because you used drugs?"

Procedure

Participants completed the survey online via Qualtrics. First, participants read an informed consent form and indicated their agreement by checking a box. Next, participants were asked two demographic questions that were as follows: "Are you female?" and "are you white?" The measures were presented in the following order: perceived environmental goal orientation, personal goal orientation, the satisfaction with life scale, the positive and negative affect schedule, the somatic symptom scale-8, the alcohol use disorders test-3, and the drug use disorders identification test. In addition to assessing how much they valued extrinsic and intrinsic goals for each domain (i.e., academic major, leisure time, and extracurricular activities), participants indicated their intended academic major, the primary way they spend their leisure time, and the extracurricular activity they are most involved with. All possible measures were taken to ensure the confidentiality and anonymity of the participants. Participants were not asked to give any identifying information and the data were numerically coded to preserve anonymity. Upon the completion of data analysis, the data was kept on a secure hard drive in the Psychology department.

Results

My study's objective was to examine two theories of goal orientation (i.e., SDT and the match perspective) and the relationships between goal orientation, well-being outcomes, and the tendency to engage in risky drug and alcohol behaviors. My first hypothesis following SDT posited that greater scores on the personal goal orientation scale, indicating greater relative intrinsic goal orientation, would be associated with higher well-being scores on the outcome

variables and less drug and alcohol consumption. My second hypothesis following the match perspective posited that smaller differences between perceived environmental goal orientation and personal goal orientation would be associated with greater well-being outcomes and less drug and alcohol consumption. Goal orientation was examined across three domains: academic major, leisure time, and extracurricular activities. A total of 88 participants completed at least one of the outcome measures and were included in my analysis. Completion of all outcome measures ranged from 78 to 88 participants.

Three goal orientation variables were created. Personal goal orientation was calculated by finding the difference between the summed intrinsic items and summed extrinsic items for each domain. Higher scores reflect more intrinsic as opposed to extrinsic goal orientation. As seen in Table 1, the personal goal orientations across these three domains correlate only weakly with each other. The second variable, perceived environmental goal orientation, was determined by using the same process used to calculate personal goal orientation. As seen in Table 2, environmental goal orientation across the three domains correlated only weakly with each other. Finally, I calculated the absolute value of the difference between personal goal orientation and perceived environmental goal orientation (absolute value of the difference) for each of the three domains. As seen in Table 3, the absolute value of the difference across the three domains revealed no significant correlations.

The correlations among the outcome variables appear in Table 4. For each of the three domains, the means, standard deviations, and ranges of personal goal-orientation, perceived environmental goal orientation, and the absolute value of the difference can be seen in Table 5. The means, standard deviations, and ranges of the outcome variables also appear in Table 5.

Personal goal orientations across all three domains tilted in favor of more intrinsic values. Leisure pursuits ($M = 2.66$, $SD = 1.91$) and extracurricular activities ($M = 1.61$, $SD = 2.15$) were especially likely to be more intrinsically than extrinsically motivated. The average personal goal orientation for academic major was slightly more intrinsic than extrinsic ($M = .50$, $SD = 2.20$). In contrast, participants on average perceived that their peers had greater extrinsic than intrinsic goal orientation for academic major ($M = -1.06$, $SD = 1.74$). Perceived environmental goal orientation for extracurricular activities ($M = -.26$, $SD = 1.74$) and leisure ($M = .08$, $SD = 2.30$) was close to the mid-point indicating that participants on average perceived that their peers were about equally motivated by intrinsic and extrinsic values.

To test the SDT, I computed 15 Pearson correlations to investigate the relationship among the three personal goal orientations, the four well-being outcomes, and the risky alcohol behavior outcome. As seen in Table 6, six of these 18 correlations were statistically significant. As expected, greater intrinsic goal orientation for academic major positively predicted SWLS, $r = .24$, $p = .05$, and negatively predicted alcohol consumption, $r = -.27$, $p = .05$. Also as expected, greater intrinsic goal orientation for leisure time negatively predicted negative affect, $r = -.28$, $p = .05$. Finally, greater intrinsic goal orientation for extracurricular activities predicted greater SWLS, $r = 23$, $p = .05$, greater positive affect, $r = .39$, $p = .01$, and less negative affect, $r = -.24$, $p = .05$.

To test the match hypothesis, I computed 15 Pearson correlations to investigate the relationship between the absolute value of the difference across the three domains and the well-being and risky behavior outcomes. As seen in Table 7, none of the correlations were significant.

Due to the large number of participants who reported never using drugs, I dichotomized this variable and tested the hypothesis using a t-test. The dichotomous variables included those who do not take any drugs (*N*=48) and those who have a problem with drugs (*N*=30). The variables were created following DUDIT scoring guidelines in which scores of 0 indicated no drug use, and scores greater than 2 for women and greater than 6 for men indicated drug problems. To test SDT, I ran three independent t-tests to determine whether drug use predicted personal goal orientation in each of the three domains. To test the match perspective, I ran three independent t-tests to determine whether drug use predicted the absolute value of the difference in each of the three domains. There were no significant findings. In other words, drug use was not related to personal goal orientation or the absolute value of the difference.

Further exploratory analysis

To determine if intrinsic goal orientation was linked to greater well-being and less risky behaviors regardless of the degree of extrinsic goal orientation, I calculated a new measure -- personal intrinsic goal orientation – for each domain by summing the intrinsic items. Extrinsic goal orientation scores were not included. I then conducted 15 Pearson correlations between personal goal orientation for each domain and the four well-being and risky alcohol behavior variables (Table 8). Although the pattern of correlations with personal intrinsic goal orientation is similar to that found with relative intrinsic goal orientation, the magnitude of some of the correlations is greater.

I also conducted three independent samples t-tests to determine if intrinsic personal goal orientation across the three domains affected drug use. Unlike with the relative intrinsic goal orientation measure, there was a significant difference in intrinsic personal goal orientation for academic major between the no drug (*M*=7.13, *SD*=1.07) and drug problem (*M*=6.52, *SD*=1.49)

groups; t(76)=2.10, *p*=.04. However, there was not a significant difference in intrinsic personal

goal orientation for leisure time between the no drug (*M*=7.14, *SD*=1.31) and drug problem

(*M*=6.93, *SD*=1.18) groups; t(76)=.70, *p*=.49. Finally, there was not a significant difference in

intrinsic personal goal orientation for extracurricular activities between the no drug (*M*=6.66,

SD=1.65) and drug problem (*M*=6.06, *SD*=1.55) groups; t(76)=1.63, *p*=.11.

To examine the difference between perceptions of environmental goal orientation and

personal goal orientation across the three domains, I conducted three paired samples t-tests. The

personal goal orientation for major (*M*=.47, *SD*= 2.26) was significantly more intrinsic than the

perceived environmental goal orientation for major (*M*=-1.17, *SD*=1.77), t(94)=6.16 , *p*=.00.

Additionally, the personal goal orientation for leisure (*M*=2.68, *SD*=1.89) was significantly more

intrinsic than the perceived environmental goal orientation for leisure (*M*= .09, *SD*=2.28),

t(89)=(8.72), p=.00. Finally, the personal goal orientation for extracurricular activities (*M*=1.61,

SD=2.15) and was significantly more intrinsic than the perceived environmental goal orientation

for extracurricular activities (*M*=-.26, *SD*=1.74, t(87)=7.08, p=.00).

To investigate the differences in personal goal orientation among the three domains, I

conducted a repeated measures ANOVA test. There was a significant difference in between the

three domains, *F*(2,86) = 31.22, *p*=.00.

I conducted pairwise comparisons using paired samples t-tests. The first paired samples

t-test revealed a significant difference between personal goal orientation for leisure (*M*=2.66,

SD=1.91) and personal goal orientation for extracurricular activities (*M*=1.61, *SD*=2.15);

t(87)=4.93, *p*=.00. The second paired samples t-test found a significant difference between

personal goal orientation for leisure (*M*=2.68, *SD*=1.89) and personal goal orientation for

academic major (*M*=.48, *SD*=2.18); t(89)=7.97, *p*=.00. The third paired samples t-test revealed a

significant difference between personal goal orientation for academic major (*M*=.50, *SD*=2.20) and personal goal orientation for extracurricular activities (*M*=1.61, *SD*=2.15); t(87)=-4.07, *p*=.00. This suggests that the domain type affects the degree of intrinsic goal orientation, with leisure time being the most intrinsically goal oriented and academic major being the least intrinsically goal oriented.

Discussion

The present study examined the conflicting hypotheses of the self determination theory (SDT) and the match perspective. According to SDT, greater levels of intrinsic goal orientation should relate to better well-being outcomes and risky drinking and drug use. In contrast, the match perspective posits that a closer match between the individual's personal goal orientation and the perceived environmental goal orientation should relate to better well-being outcomes and less risky drinking and drug use. This research builds on the work of Vansteenkiste and his colleagues (2008) by considering goal orientation in various contexts beyond academics and by developing a measure to assess if individuals experience a 'mismatch" between their personal goal orientation and perceived environmental goal orientation. The results from the present study provided limited support for the SDT (Ryan & Deci, 2000) and no support for the match perspective (Sagiv & Schwartz, 2000).

Correlation tests provided limited support for the SDT, as six of the 15 correlations were significant. Results revealed that greater intrinsic goal orientation for academic major positively predicted satisfaction with life and negatively predicted alcohol consumption. Greater intrinsic goal orientation for leisure time was negatively correlated with negative affect. Additionally, greater intrinsic goal orientation for extracurricular activities was positively associated with satisfaction with life and positive affect, and negatively associated with negative affect. Overall,

these findings are not surprising as the SDT posits that the three basic psychological needs (i.e., autonomy, competence, and relatedness) are more likely to be satisfied through the pursuit of intrinsic goals compared to extrinsic goals.

Moreover, SDT theorizes that optimal well-being occurs when the three basic psychological needs are met, which is supported by the results from the present study (Ryan & Deci, 2000). One could interpret the results to indicate that greater satisfaction with life and positive affect occur as individuals experience autonomy by selecting an academic major or extracurricular activity that is inherently interesting and allows them to form meaningful connections with their peers and professors also involved in that area. Past research has found that the pursuit of extrinsic goals leads to individuals looking outward for validation of their self-worth and poorer psychological well-being (Vansteenkiste et al., 2008). The pursuit of extrinsic goals has also been linked to greater abuse of drugs and alcohol (Kasser & Ahuvia, 2002; Kasser & Ryan, 1993; Knee & Neighbors, 2002; Niemiec et al., 2009; Williams, Cox, Hedburg, & Deci, 2000), while the pursuit of intrinsic goals has been associated less with risky drug and alcohol behaviors (Niemiec et al., 2009; Sheldon et al., 2004; Vansteenkiste et al., 2008; Williams et al., 2000). Thus, the results from the present study indicating that greater intrinsic goal orientation predicts less risky alcohol behaviors align with past findings supporting SDT.   There were no significant findings for risky drug behavior outcomes in relation to goal orientation. However, this could be due to the distribution of responses for the DUDIT measure, which assessed drug use. Future research should reexamine the relationship between goal orientation and risky drug behaviors.

While the present study provides limited support for SDT and the positive outcomes associated with intrinsic goal orientation, further research is needed to determine how robust the

findings are. Given that only six of the 18 statistical tests were significant and the pattern of significance appeared to be arbitrary, concerns of a type I error arise. To find six significant findings out of 18 is enough to deserve recognition, however, future research is necessary to validate these findings and ensure that the relationships are indeed significant.

There was no support for the match perspective. This is not entirely surprising, as there are very few studies that have found support for the match perspective (Dysvik & Kuvaas, 2013; Sagiv & Schwartz, 2000). Sagiv and Schwartz (2000) suggest that incongruence in personal goal orientation and environmental goal orientation can impede the realization of personal goals, cause social isolation, and an internal conflict. The results from the present study do not support the match perspective as a greater difference in personal goal orientation and perceived environmental goal orientation did not predict low well-being outcomes, or a greater frequency in risky alcohol behaviors. Past research supporting the match perspective has made assumptions of the environmental goal orientation, whereas I measured the perceived environmental goal orientation for each individual. This different methodology in measuring perceived environmental goal orientation could explain why my results do not support past findings. Alternatively, perhaps perceived environmental goal orientation does not affect well-being outcomes or risky behaviors.

Exploratory analyses found that there was a significant difference in personal goal orientation and perceived environmental goal orientation. Reported personal goal orientations across the three domains were significantly more intrinsic than perceived environmental goal orientations across the three domains. According to these results, it is evident that the participants perceived their environment to prioritize extrinsic goals more than they themselves did. Perhaps this is because of the university setting, where students are focused on attaining

academic and future professional success. It is possible that students hear more about the results

from their peer's extrinsic goals compared to intrinsic, leading them to believe that their peers

are generally extrinsically goal oriented. For example, students might be more likely to observe

and hear about extrinsic goals related to wealth, social recognition, and image compared to

intrinsic goals such as creating meaningful relationships, or experiencing personal or spiritual

growth. Future research should identify the factors that contribute to the perception of extrinsic

goal orientation among one's peers.

Another finding worthy of discussion is that participants reported greatest intrinsic goal

orientation for leisure time, followed by extracurricular activities, and academic major.

However, greater intrinsic goal orientation for extracurricular activities was linked with more

positive outcomes (greater satisfaction with life and positive affect and less negative affect)

compared to leisure time, which only predicted less negative affect. These results could be

interpreted to indicate that extracurricular activities induce positive outcomes while leisure time

reduces negative outcomes.

Additionally, the present research suggests that the presence of intrinsic goal orientation,

regardless of extrinsic goal orientation, results in optimal well-being outcomes. This finding

provides support for SDT as the pursuit of intrinsic goals was linked to optimal well-being

outcomes (Niemiec et al., 2009; Sheldon et al., 2004; Vansteenkiste et al., 2008; Williams et al.,

2000). Further, some of the well-being outcomes improved with greater levels of intrinsic goal

orientation. Future research should investigate if there is a causal relationship between the

degree intrinsic goal orientation and well-being outcomes.

Overall, the present study provides limited support for the SDT and no support for the

match perspective. Further, the results indicate that perceptions of environmental goal

orientation are significantly less intrinsic than personal goal orientation. The present study contributes to the field by testing both SDT and match perspective across various contexts in the same sample of college students and by explicitly measuring perceived goal orientation.

Limitations

There are several general limitations to my study. First, the results may not be generalizable considering the sample had an unbalanced gender composition (22 men and 66 women) and race composition (88% white). In order to generalize, a more diverse sample would be recommended. Second, the statistical power of my results was reduced due to the distribution of responses for the DUDIT portion of the survey. Another limitation of the study was the threat of a Type I error due to the large number of tests that were conducted.

Future Directions

Future research should repeat and build on the current study by testing SDT across more domains and in populations beyond university students. This would provide a clearer picture of how goal orientation affects well-being outcomes and the tendency to engage in risky drug and alcohol behaviors. In addition, reevaluating SDT would ensure that the findings supporting SDT were not a result of a Type I error. Future research should further investigate the relationship among risky drug behaviors, goal orientation, and well-being outcomes.

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Table 1

Correlations Among Personal Goal-Orientations in the Three Domains

Measure	1	2
1. Major	--	
2. Leisure	.19	--
3. Extracurriculars	.31**	.52**

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 2

Correlations Among Perceptions of Environmental Goal Orientations in the Three Domains

Measure	1	2
1. Major	--	
2. Leisure	.302*	--
3. Extracurriculars	.350**	.556**

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 3

Correlations Among the Absolute Value of the Difference in the Three Domains

Measure	1	2
1. Major	--	
2. Leisure	.22*	--
3. Extracurriculars	.22*	.53**

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 4

Correlations Among Outcome Variables

Measure	1	2	3	4	5
1. SWLS	--				
2. PA	.55**	--			
3. NA	-.29**	-.10	--		
4. SSS-8	-.37**	-.08	.29*	--	
5. AUDIT	-.08	.00	-.08	.03	--
6. DUDIT	.13	-.12	-.05	.04	.26

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 5

Mean, Standard Deviation, and Range of All Variables

	M	SD	Range	N
Personal Goal Orientation				
Major	.50	2.20	-6.67 to 6.00	88
Leisure	2.66	1.91	-2.33 to 7.67	88
Extracurriculars	1.61	2.15	-3.00 to 7..33	88
Perceived Goal Orientation				
Major	-1.06	1.74	-6.33 to 3.67	88
Leisure	.08	2.30	-8.00 to 7.00	88
Extracurriculars	-.26	1.74	-5.00 to 3.67	88
Absolute Value of the Difference				
Major	2.12	1.98	0.00 to 10.00	88
Leisure	2.74	2.68	0.00 to 14.33	88
Extracurriculars	2.37	2.00	0.00 to 9.33	88
Outcome Variables				
SWLS	24.78	6.95	6.00 to 35.00	88
PA	34.82	6.47	15.00 to 50.00	84
NA	23.31	7.57	10.00 to 50.00	86
SSS-8	17.80	6.65	8.00 to 36.00	81
AUDIT-3	3.22	1.98	0.00 to 9.00	78
DUDIT	6.67	6.89	1.00 to 35.00	36

Table 6

Correlations Among Outcome Variables and Personal Goal-Orientations in the Three Domains

Measure	Major	Leisure	Extracurriculars
SWLS	.24*	-.02	.23*
PA	.17	.06	.39**
NA	-.11	-.28*	-.24*
SSS-8	-.11	.14	.02
AUDIT-3	-.27*	-.06	-.18

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 7

Correlations Among Outcome Variables and the Absolute Value of the Difference in the Three Domains

Measure	Major	Leisure	Extracurriculars
SWLS	.06	-.12	-.05
PA	.08	.00	.16
NA	-.06	.02	-.00
SSS-8	-.07	.09	.11
AUDIT-3	-.09	-.19	-.00

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 8

Correlations Among Outcome Variables and Personal Intrinsic Goal Orientations in the Three Domains

Measure	Major	Leisure	Extracurriculars
SWLS	.25*	.16	.29**
PA	.32**	.33**	.52**
NA	.11	-.03	-.03
SSS-8	-.01	.15	-.07
AUDIT-3	-.32**	-.15	-.10

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Appendix A

Human Subjects Research Consent Form

Project Title: Student perceptions and experiences of college life.

Purpose of Research: I understand that the purpose of this study is to obtain a better understanding of college students' perceptions and experiences of college life.

General Plan of the Research: I understand that if I consent to participate in this study, I will be asked questions about my personal motivations to engage in various activities, what I perceive to be the general motivations of other college students, my psychological and physical well-being and my tendency to engage in risky behaviors (i.e., drug and alcohol use). I understand that what I share with the experimenter will be completely anonymous and my personal identity will not be connected with my responses.

Estimated Duration of the Research: I understand that my participation should take no longer than 30 minutes to complete.

Estimated Total Number of Participants: I understand that researchers expect to collect data from 60-80 participants.

Questions: If I have questions or concerns, I understand that I may contact the Principle Investigators: Allie Sonneborn at (847) 254-7028 or ars026@bucknell.edu or Prof. Kim Daubman at (570) 577-1962 or daubman@bucknell.edu. For general questions about the rights of human participants in research, I may contact Prof. Matthew Slater, Chair, Institutional Review Board, matthew.slater@bucknell.edu , (570) 577-2767.

Voluntary Participation: I understand that my participation in this research is completely voluntary. If I agree to participate, I may refuse to answer any questions and/or withdraw from the study at any time without penalty or loss of benefits to which I am otherwise entitled.

Benefits of Participation: I expect to learn about the conduct of psychological research generally and, more specifically, about research in this area of psychology, by participating in this study. Those participating for a Psych 100 requirement will receive .50 credits.

Confidentiality: I understand that the event I share with an experimenter will be kept confidential, and that all of my responses will be completely anonymous. I will not be asked to reveal any information that could be used to identify me as a participant in this study.

I have read the above description of the research. Anything I did not understand was explained to me and I had all of my questions answered to my satisfaction.

By clicking the arrow, I signal my consent to participate in this research and affirm that I am 18 years of age or older.

Appendix B

Survey

<u>Demographics:</u>

1.) Are you female?
          ____ Yes
          ____ No
          ____ I prefer not to answer

2.) Are you white?
          ____ Yes
          ____ No
          ____ I prefer not to answer

<u>Perceived Community Motivation:</u>

1.) Using a 9-point scale, indicate how important you think each of the following reasons is to Bucknell students when they choose an academic division (i.e., Arts & Humanities, Engineering, Management, Social Sciences, and Natural Sciences & Mathematics), with 1 = not at all important and 9 = extremely important.
      ____ They desire future financial wealth
      ____ They desire social recognition (approval from parents, faculty and peers)
      ____ They think it looks good to future employers or graduate programs
      ____ They have an inherent interest in the subject
      ____ They desire strong and meaningful connections with professors and peers in that department
      ____ They feel they have a high aptitude in the subject

2.) Bucknell students spend their leisure time engaging in a variety of ways, including working out, partying, watching Netflix, reading, etc. Using a 9-point scale, indicate how important you think each of the following reasons is to Bucknell students when they choose how to spend their leisure time, with 1= not at all important and 9 = extremely important.
      ____They want to make meaningful connections with others
      ____They want to become more popular and admired among their peers by gaining social approval
      ____They inherently enjoy the activity
      ____They feel pressured to engage in the activity to live up to societal/ community expectations

3.) Bucknell students engage in a variety of extracurriculars, including interest clubs, athletics, Greek organizations, community service, etc. Using a 9-point scale, indicate how important you think each of the following reasons is to Bucknell students when they choose an extracurricular activity, with 1 = not at all important and 9 = extremely important.

     ____They want to make meaningful connections with others
     ____They want to become more popular and admired among their peers by gaining social approval
     ____They feel that engaging in the activity will help them with future career or academic aspirations
     ____They inherently enjoy the activity
     ____The activity promotes mental health
     ____They feel pressured to engage in the activity to live up to societal/ community expectations

<u>Personal Motivation:</u>

1) What is your intended division of study (i.e., Arts & Humanities, Engineering, Management, Social Sciences, and Natural Sciences & Mathematics)?
_____ (Participants select one of the listed divisions in a drop down menu)

Using a 9-point scale, indicate how important you think each of the following reasons is to you when choosing a major, with 1 = not at all important and 9 = extremely important.

     ____ You desire future financial wealth
     ____ You desire social recognition (approval from parents, faculty and peers)
     ____ You think it looks good to future employers or graduate programs
     ____ You have an inherent interest in the subject
     ____ You desire strong and meaningful connections with professors in that department
     ____ You feel you have a high aptitude in the subject

2.) What is the primary way you spend your leisure time?
- Working out
- Watching Netflix/ TV/ reading
- Spending time with friends
- Partying or consuming drugs and/or alcohol
- Gaming
- Volunteering/ Community Service

Using a 9-point scale, indicate how important you think each of the following reasons is to you when deciding which leisure activity to devote the majority of your time to, with 1 = not at all important and 9 = extremely important.

     ____You want to make meaningful connections with others
     ____You want to become more popular and admired among your peers by gaining social approval

_____You inherently enjoy the activity
_____You feel pressured to engage in the activity to live up to societal/ community expectations
_____You find the activity promotes your mental health
_____You feel that engaging in the activity will help you with future career or academic aspirations

3.) What extracurricular activity are you the most involved in?
Drop down menu options:
- Greek life
- Academic organization
- Student Government
- Interest organization (i.e. newspaper, Spoon university, choir, drama club, etc.)
- Organization associated with identity (e.g., POSSE, Hillel, etc.)
- On/off campus job

Using a 9-point scale, indicate how important you think each of the following reasons is to you when deciding which leisure activity to devote the majority of your time to, with 1 = not at all important and 6=9 = extremely important.
_____You want to make meaningful connections with others
_____You want become more popular and admired among your peers by gaining social approval
_____You feel that engaging in the activity will help you with future career or academic aspirations
_____You inherently enjoy the activity
_____You find the activity promotes your mental health
_____You feel pressured to engage in the activity to live up to societal/ community expectations

Measuring Your Satisfaction With Life
Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1984)

Below are five statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your response.

7 Strongly agree
6 Agree
5 Slightly agree
4 Neither agree nor disagree
3 Slightly disagree
2 Disagree
1 Strongly disagree

_____ In most ways, my life is close to my ideal.

_____ The conditions of my life are excellent.
_____ I am satisfied with my life.
_____ So far, I have gotten the important things I want in life.
_____ If I could live my life over, I would change almost nothing.

PANAS SCALE
Watson et al., 1988

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you have felt this way over the past week.
*(1) Very Slightly or Not At All   (2) A Little   (3) Moderately   (4) Quite a Bit
        (5) Extremely*

_____ 1. Interested
_____ 2. Distressed
_____ 3. Excited
_____ 4. Upset
_____ 5. Strong
_____ 6. Guilty
_____ 7. Scared
_____ 8. Hostile
_____ 9. Enthusiastic
_____ 10. Proud
_____ 11. Irritable
_____ 12. Alert
_____ 13. Ashamed
_____ 14. Inspired
_____ 15. Nervous
_____ 16. Determined
_____ 17. Attentive
_____ 18. Jittery
_____ 19. Active
_____ 20. Afraid

The Somatic Symptom Scale- 8 (SSS-8)
Gierk et al., 2014

During the past 7 days, how much have you been bothered by any of the following symptoms?
        0= not at all
        1= a little bit
        2= somewhat

3= quite a bit
4= very much

____ Stomach or bowel problems
____ Back pain
____ Pain in your arms, legs, or joints
____ Headaches
____ Chest pain or shortness of breath
____ Dizziness
____ Feeling tired or having low energy
____ Trouble sleeping

<u>AUDIT-3</u>
Bush K, Kivlahan DR, McDonell MB, et al. (1998).

1.) How often do you have a drink including alcohol?
      a. Never
      b. Monthly or less
      c. 2-4 times a month
      d. 2-3 times a week
      e. 4 or more times a week
2.) How many standard drinks containing alcohol do you have on a typical day?
      a. 1 or 2
      b. 3 or 4
      c. 5 or 6
      d. 7 to 9
      e. 10 or more
3.) How often do you have six or more drinks on one occasion?
      a. Never
      b. Less than monthly
      c. Monthly
      d. Weekly
      e. Daily or almost daily

<u>DUDIT- Drug Use Disorders Identification Test</u>
1.) How often do you use drugs other than alcohol?
      a. Never
      b. Once a month or less often
      c. 2-4 times a month
      d. 2-3 times a week
      e. 4 times a week or more often
2.) Do you use more than one type of drug on the same occasion?
      a. Never

   b. Once a month or less often

   c. 2-4 times a month

   d. 2-3 times a week

   e. 4 times a week or more often

3.) How many times do you take drugs on a typical day when you use drugs?

   a. 0

   b. 1-2

   c. 3-4

   d. 5-6

   e. 7 or more

4.) How often are you influenced heavily by drugs?

   a. Never

   b. Less often than once a month

   c. Every month

   d. Every week

   e. Daily or almost every day

5.) Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?

   a. Never

   b. Less often than once a month

   c. Every month

   d. Every week

   e. Daily or almost every day

6.) Has it happened, over the past year, that you have not been able to stop taking drugs once you have started?

   a. Never

   b. Less often than once a month

   c. Every month

   d. Every week

   e. Daily or almost every day

7.) How often over the past year have you taken drugs and then neglected to do something you should have?

   a. Never

   b. Less often than once a month

   c. Every month

   d. Every week

   e. Daily or almost every day

8.) How often over the past year have you needed to take a drug in the morning after heavy drug use the day before?

   a. Never

   b. Less often than once a month

   c. Every month

   d. Every week

   e. Daily or almost every day

9.) How often over the past year have you had guilt feelings or a bad conscience because you used drugs?

      a. Never
      b. Less often than once a month
      c. Every month
      d. Every week
      e. Daily or almost every day

10.) Have you or anyone else been hurt (mentally or physically) because you used drugs?
      a. No
      b. Yes, but not over the past year
      c. Yes, over the past year

11.) Has a relative or friend, a doctor or nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?
      a. No
      b. Yes, but not over the past year
      c. Yes, over the past year