Examining the Construct Validity of the Lockwood Goal Orientation Scale Using the General Hierarchal Model: An Exploratory Study

Amjad Abu ELSamen
The University of Jordan

The purpose of this research is to examine the psychometric properties of the individual goal orientation construct using the Lockwood, Jordan, and Kunda (2002)18-item scale. After a series of confirmatory factor analyses, a final scale is obtained composed of ten items; five items measure promotion orientation, and five measure prevention orientation. The two dimensions had good discriminant validity. To further test whether promotion and prevention orientations are two dimensions of the same construct or two different constructs, the nomological network for promotion and prevention is investigated using the general hierarchical model (GHM). According to this model, if the promotion and prevention dimensions have different antecedents and consequences, they should be treated as separate constructs. The results support the prediction that goal orientation is in fact two different constructs because the results reveal that the predictors and outcomes of goal orientation are different. For example, three of the antecedent constructs were significant predictors for the prevention orientation construct: introversion, consciousness, and emotional instability. On the other hand, two constructs were significant predictors for the promotion orientation construct: the needs for material resources and for body resources. Research limitations and future research are also discussed.

INTRODUCTION

Suzan and Michael are two students in a marketing class. Both have a common goal: attaining an A in the class. Suzan's motivation is personal accomplishment, whereas Michael's motivation is fulfillment of an obligation to his parents.

Regulatory Focus Theory (Higgins 1997) distinguishes between two different motivation mechanisms: promotion focus and prevention focus. People with promotion focus strive to realize their ideals and are sensitive to the presence or absence of positive outcomes (Suzan). In contrast, people with prevention focused strive to fulfill their duties and obligations and are sensitive to the presence or absence of negative outcomes (Michael).

Individuals' dispositional regulatory focus has been measured using a number of scales. These scales, however, suffer from methodological flaws: dimensionality (BIS, BAS, Carver and White 1994), social desirability (RFQ, Higgins et al. 2001), generalizability (Lockwood et al. 2002), and poor model fit (RFS, Fellner et al. 2007).

The goal orientation scale that will be examined in this research is adapted from Lockwood et al. (2002). The scale has 18 items, half measuring promotion focus and the other half measuring prevention focus. This scale is more related to student samples and has been used in marketing and consumer behavior literature to examine the impact of regulatory focus on adolescents' responses to an antismoking

advertising campaign (Zhao and Pechmann 2007). Additionally, the objective in this research is to determine the strength of individuals' goal orientation (whether they are dominant in promotion or prevention) rather than simply measuring goal orientation. In pursuing this objective, Lockwood et al. (2002) used the difference scores between the promotion and prevention focus values.

Although the Lockwood et al. (2002) goal orientation scale was used in the marketing literature (Zhao and Pechmann 2007), the psychometric properties of this scale have not been tested. It is essential to test whether promotion and prevention orientations are two dimensions of the same construct (goal orientation as specified by Lockwood et al., 2002) or in fact two different constructs. To that end, the nomological network for promotion and prevention will be investigated. In this research, the general hierarchical model (GHM) (Mowen and Voss 2008) is used as a framework for examining the structure of the individual goal orientation scale. This framework minimizes the problems that occur in the scale development process: (a) defining the construct, (b) drawing items from multiple domains, (c) identifying dimensions, and (d) showing nomological validity. If the promotion and prevention dimensions have different antecedents and consequences, they should be treated as separate constructs (Mowen and Voss 2008).

To sum up, this research examines the dimensionality and the discriminant validity of the goal orientation construct scale in the context of a car insurance purchase. A warranty is a type of insurance based financial service that ostensibly reduces the financial risk of a purchase. The warranty industry is very large. Excluding the auto industry component, one estimate placed it at over $15 billion (Mouldry and Sebastian 2004). In 2008, warranty claims in the auto industry were estimated to be $13.1 billion (Warranty Week 2008), which represents a fraction of the total revenues collected from auto warranty buyers. As suggested by the sheer size of the industry, warranties impact consumer perceptions and behavior. For example, researchers have found that the presence of a warranty influences consumer evaluations of product quality and reliability (Weiner et al, 1986; Price and Dawar, 2002), and product risk (Shimp and Bearden, 1982).

The objectives are to (1) test whether promotion and prevention orientations are two dimensions of a single construct or two separate constructs, and (2) to determine the nomological network of the goal orientation construct. This paper is organized as follows. First, we present a comprehensive review of the goal orientation literature, followed by a discussion of the GHM. Next, we describe the survey design, the measures, procedure, and data analysis. Finally, the findings, research limitations, and future research are presented.

LITERATURE REVIEW

Individuals' dispositional regulatory focus is measured using a number of scales. Carver and White (1994) developed the behavioral inhibition, behavioral activation (BIS, BAS) scale. The BIS is sensitive to signals of punishment and inhibits behaviors that may lead to negative or painful outcomes. In contrast, the BAS is sensitive to signals of rewards and increase persons' movement toward goals. The final scale is comprised of four factors: a unidimensional BIS scale and three BAS related scales (BAS reward responsiveness, BAS drive, and BAS fun-seeking). The validity and generalizability of the four-factor model of this scale is established by Leone et al. (2001). Dholakia et al.(2006) recently used the BIS/ BAS scale to examine the role of regulatory focus in the experience and control of desire in a situation of temptation. The results demonstrate that consumers with a promotion focus not only experience desire to a greater intensity but are also able to more effectively resist such desires than are prevention-focused consumers. Despite these findings, the BIS and BAS scales appear to be a mix of other personality scales. For example, the fun-seeking scale could be explained by the need-for-arousal scale and the BAS scale could be explained by the impulsiveness scale.

The Regulatory Focus Questionnaire (RFQ) developed by Higgins et al. (2001) relates items to situations experienced in the past, partly even in childhood (e.g., Did you get on your parents' nerves often when you were growing up?). People are classified as promotion- or prevention-focused according to a median split on the difference between the RFQ promotion scale and the RFQ prevention scale.

Herzenstein, Posavac, and Brakus (2007) adopt the RFQ scale in exploring how consumers' self-regulation affects the likelihood of their adopting new products. Across three studies, the authors find that prevention-focused consumers react to new products differently from promotion-focused consumers as the ownership of new high-tech products is higher among promotion-focused consumers. Herzenstein et al. (2007) find support for their predictions, but answers might be less precise because the items relate to events often taking place many years earlier, which is intended to reduce the tendency to give socially desirable responses. Lockwood et al. (2002) examine the impact of role models on motivation by developing an instrument that relates the items to current attitudes, actions, and habits (e.g., I typically focus on the success I hope to achieve in the future). Across three studies, individuals are found to be motivated by role models who encourage strategies that fit their regulatory concerns. More specifically, promotion-focused individuals are most inspired by positive role models who highlight strategies for achieving success. On the other hand, prevention-oriented individuals are most inspired by negative role models who highlight strategies for avoiding failure. Given the wording of some of the items in this scale (e.g., My major goal in school right now is to achieve my academic ambition), this questionnaire can only be used in a context relating to initial and continuing education.

Zhao and Pechmann (2007) examine the impact of individuals' regulatory focus as measured by the Lockwood et al. scale on adolescents' responses to an antismoking advertising campaign. Across two studies, the authors find that the impact of ad messages can be enhanced by aligning the message's regulatory focus and the message's frame to viewers' regulatory focus. More specifically, for promotion-focused adolescents, a promotion-focused message that is framed positively is the most effective at persuading them not to smoke. For prevention-focused adolescents, on the other hand, a prevention-focused message that is framed negatively is the most effective.

Shah, Higgins, and Friedman (1998) develop the Regulatory Strength Measure (RSM), which is administered exclusively by computer and is intended to measure the strength of promotion and prevention orientation. It measures the time people require to type in their own *ideals* and *thoughts* and to rate them; based on this data, conclusions are drawn about the importance and strength of their promotion or prevention orientation. The shortcoming of this scale is that it can be administered only under extremely controlled conditions (e.g., in the laboratory) and is therefore unsuitable for online studies, for example.

Fellner et al. (2007) recently presented the Regulatory Focus Scale (RFS), an instrument comprised of ten items to record promotion orientation and prevention orientation. In generating these items, the authors attempt to reflect the core statements of Higgins' (1997) regulatory focus theory by wording the items in a way that depicts the importance of the individual's own ideals and obligations (e.g., I often think about what other people expect of me). The confirmatory factor analysis (CFA) shows a four-factor model with one item cross-loading and four correlated error terms, which poorly satisfies the requirements of a good model fit.

To summarize, a number of scales have been used to measure individuals' goal orientation. In this research, the objective is to examine the properties of the goal orientation scale developed by Lockwood et al (2002). This scale is well cited in the marketing literature, however, unlike other scales (i.e. RFQ, BIS/BAS); the properties of this scale have not been tested yet. Moreover, as noted previously, this scale suffers from a conceptual problem as well, as some of its items are only pertaining to educational contexts. It should be noted here that the objective of this study is exploratory, thus, our intention does not go beyond explaining how this scale is behaving. In this research, the psychometric properties and the structure of the goal orientation scale are examined here using the GHM framework (Mowen and Voss 2008).

General Hierarchical Model (GHM)

The 3M Model (Mowen 2000) will be employed as the theoretical foundation for investigating the antecedents and consequences of goal orientation. Because the 3M Model has been discussed previously in the literature (Licata, Mowen, and Brown 2003; Mowen 2004; Mowen and Sujan 2005), it will be only briefly described here.

As a general model of motivation and personality, the 3M Model has been employed to investigate not only consumer behavior (e.g. superstition, Mowen and Carlson 2003; competitiveness, Mowen 2004; and volunteerism, Mowen and Sujan 2005), but also service employee performance (Brown et al. 2002; Licata et al. 2003). The 3M Model integrates control theory, evolutionary psychology principles, and elements of hierarchical trait theories. The result is an integrated account of how personality interacts with situations to influence feelings, thoughts, and behaviors. In the model, elemental traits, compound traits, situational traits, and category-specific surface traits are arranged in a hierarchy and serve as a frame of reference for evaluating outcomes. When outcomes, or expected outcomes, diverge from the trait reference points, individuals are motivated to change their patterns of behavior so that it is consistent with the underlying disposition.

According to the 3M Model, elemental traits arise from genetics and early learning history. Residing at the highest abstraction level and cross-situational in nature, they represent the most basic components of the personality-motivational structure of the individual. Five of the eight elemental traits were derived from Saucier's (1994) version of the Five-Factor Model of Personality. These five traits are: openness to experience, conscientiousness, extroversion (measured as introversion), agreeableness, and emotional instability. Using an evolutionary psychology perspective, three additional elemental traits were proposed: the need for body resources, the need for material resources, and arousal. In a series of five studies, the proposed structure of the elemental traits was supported by confirmatory factor analysis (Mowen 2000) and replicated by Licata et al. (2003). Each of the eight elemental traits is investigated in the present research either as a control variable or as a hypothesized antecedent of goal orientation.

At the third level in the hierarchy are compound traits. They are defined as cross-situational, enduring dispositions that result from culture, subculture, the learning history of the individual, and the effects of combinations of elemental traits. We place goal orientation at this level.

At second level in the hierarchy are situational traits, which result from the effects of elemental traits, compound traits, and the press of the general situational context in which behavior occurs.

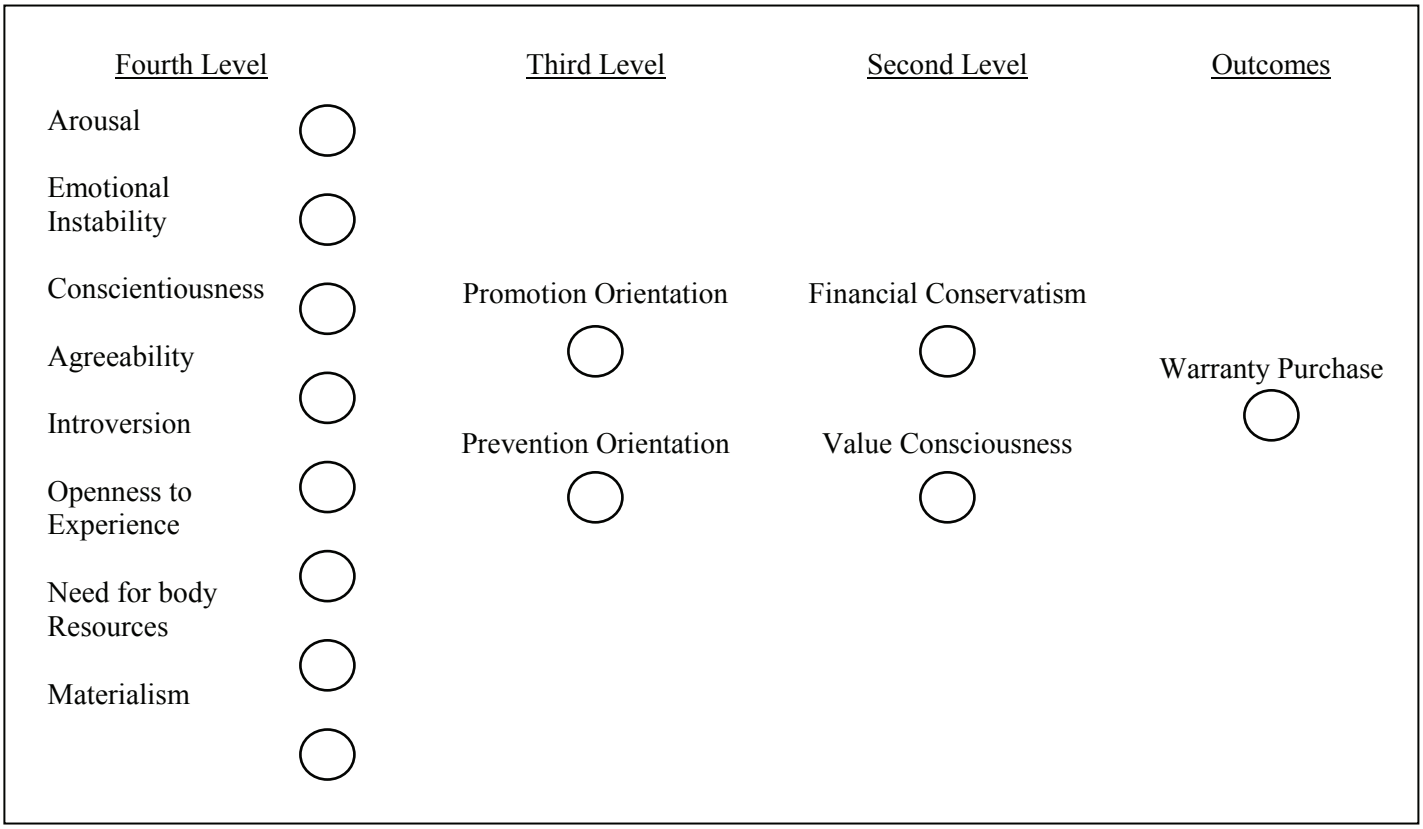
Mowen and Voss (2008) propose a general hierarchical model (GHM) that provides an organizational structure for placing many of the individual difference constructs used in marketing and consumer behavior. Three principles derived from the GHM have been suggested to solve some of the problems in current scale development paradigms. These principles are: (1) the hierarchical net principle, (2) the dimensionality principle, and (3) the item-matching principle. What follows is a discussion of the structure of goal orientation using the GHM framework.

Principle 1: The Hierarchical Net Principle

The goal orientation trait is proposed to be at the third level of a respondent hierarchy. By definition, goal orientation reflects a disposition to act or behave either toward or away from an end state. This disposition, however, does not change and is not influenced by situational factors. Therefore, goal orientation is proposed to result from the effects of subsets of elemental traits on the fourth level of the respondent hierarchy.

It is anticipated that value consciousness and financial conservatism are on the second level of the respondent hierarchy, and the propensity to buy a warranty is an outcome. Mowen (2000) placed the value-consciousness trait at the situational level when examining bargaining proneness, as people express a disposition to be value conscious within the general purchase situation. Moreover, in the previously mentioned study, Chernev (2004) found that different goal orientations lead to different loss aversions when asking the respondents to choose between two financial plans with varying levels of return. Therefore, it is anticipated that individuals with different goal orientations will exhibit different value consciousness and financial conservatism traits. The proposed model is presented in Figure 1.

FIGURE 1
THE GENERAL HIERARCHICAL MODEL



Principle 2: The Dimensionality Principle

Examining the dimensionality principle is important for determining whether promotion focus and prevention focus are two underlying dimensions of goal orientation or two separate constructs. If promotion and prevention focus have similar antecedents and consequences, they should be specified as two dimensions of an underlying construct.

Principle 3: Item-Matching Principle

This study examines whether the items tapping promotion and prevention focus are within the same level in the GHM. According to Mowen and Voss (2008), the item-matching principle is important because items from two different constructs at the same level in the hierarchy should not be combined to form a single measure. Moreover, Mowen and Voss (2008) recommend using scales that have four to eight items. However, the goal orientation scale developed by Lockwood et al. (2002) has 18 items, nine of which measure a promotion focus and the other nine a prevention focus, which violates the item-number corollary principle.

RESEARCH METHODOLOGY

Building on the GHM recently proposed by Mowen and Voss (2008), it is proposed that the elemental traits of personality developed by Mowen (2000) are at the fourth level of the respondent hierarchy. It is hypothesized that both promotion and prevention focuses are placed at the third level. At the second level of the respondent hierarchy, value consciousness and financial conservatism are expected to predict individual likelihood to buy a warranty.

Illustration of the GHM

To illustrate the GHM, we investigate the trait antecedents of two compound-level traits: promotion and prevention focus. Measures of the elemental traits are taken from Licata et al. (2003), where subjects were asked, "How often do you feel/act this way," and responded on nine-point scales anchored by "never" and "always." Measures of the situational trait of value consciousness are taken from Lichtenstein, Netemeyer, and Burton (1990), where responses were also on nine-point scales anchored by "never" and "always."

Discriminant Validity of Goal Orientation

Individual differences in promotion versus prevention orientations are assessed using items from the Lockwood et al. (2002) scale. The scale has 18 items, half of which measure promotion focus (e.g., I frequently imagine how I will achieve my hopes and aspirations); the other half measure prevention focus (e.g., I frequently imagine how I can prevent failure in my life). A measure of dominant regulatory focus is created by subtracting the prevention focus score from the promotion focus score. That is, high scores reflect a relatively stronger promotion focus than prevention focus. Then participants are classified as either promotion focused or prevention focused on the basis of a median split.

Furthermore, the dimensionality of Lockwood's scale has not been established in the literature. Within the GHM context, if promotion focus and prevention focus have different antecedents and consequences, then they should be treated as different constructs.

Sample and Procedures

In this research, the Lockwood et al. (2002) goal orientation scale was administrated to 280 undergraduate students from a large midwestern university. They were offered course credit for their voluntary completion of the study. The sample consists of 44% males and 56% females, with a mean age of 21.7 years. Two missing values were identified and prior to data analysis, they were replaced with mean substitution.

To assess the dimensionality of the goal orientation scale, promotion and prevention were specified in a second-order model, single-order model, and a two-factor model. The fit indices for this scale were examined and compared using comparative fit indices and guidelines suggested by Voss, Spangenberg, and Grohmann (2003); that is, the item deletion process stopped if the deletion of an item from a scale compromise the construct's conceptual meaning, or when one or two possible results occurred: (1) the χ^2 difference test showed no difference and/or the adjusted goodness of fit indices (AGFI) did not increase.

To assess the nomological validity, the goal orientation scale was employed as an antecedent to the constructs of value consciousness, financial conservatism, and likelihood to buy a car warranty. In addition, elemental traits from the 3M model were employed as antecedents to goal orientation. Within the GHM context, if the promotion and prevention dimensions had different antecedents and consequences, then they should be treated as separate constructs.

ANALYSIS AND RESULTS

In order to further evaluate the scales' properties, the 18 measurement items were subjected to a structural equation modeling (SEM) using LISREL 8.5. The first step of the analysis was to specify and test a second-order model in which promotion and prevention orientations each served as indicators of the higher-order construct (goal orientation). The test for the second-order factor revealed poor model fit (χ^2 565.47, 134 df); comparative fit index [CFI] = 0.86; goodness of fit (GFI) = 0.82; root mean square error of approximation [RMSEA] = 0. 11. These results show that the goal orientation scale used in the literature has psychometric problems that need to be solved. Therefore, we decided to further examine the properties of this scale.

Because the goal orientation scale is composed of nine pairs of items measuring both promotion and prevention orientation, we expect it to have items that share a greater proportion of variance with each other. Because of the exploratory nature of this study, the objective is to retain the items that have high

loadings to maintain face validity since the modification indices suggest that many items have more in common with each other than the specified model allows. Therefore, consistent with the literature, offending items were sequentially deleted until the standardized loadings and fit indices revealed that no improvement could be attained through item deletion. In addition, following guidelines outlined by Voss et al. (2003), a series of shortened versions of the scale were compared using χ^2 difference tests, GFI indices, and AGFI. Following the decision rules, the item deletion process stops when one of two possible results occurs: (1) the χ^2 difference test shows no difference, and/or (2) the AGFI does not increase. Additionally, the comparative fit indices are used to compare the scales (i.e., AIC, CFI).

After a series of analyses, the final model consists of ten items, five of which measure prevention orientation and five measure promotion orientation. The fit indices reveal that the model provides an adequate fit to the data (Hu and Bentler 1999) (χ^2 = 138.17, 34 df; CFI = 0.92; SRMR = 0. 078; GFI = 0.91; and RMSEA = 0.10). The χ^2 difference test results (χ^2 = 427.24, df = 100) revealed that the ten-item model was a better fitting model than the 18-item scale. The AGFI for the ten-item scale (0.86) was higher than that for the 18-item scale (0.77). Furthermore, the comparative fit indices for the ten-item scale were better than those for the 18-item scales. The AIC for the ten-item scale (176.86) was lower than that for the 18-item scale (629.25), and the CFI for the ten-item scale (0.92) was higher than the CFI for the 18-item scale (0.86). The significant χ^2 difference test, the improvement in AGFI, and the comparative fit indexes taken together support the ten-item scale.

To further test the structure of the goal orientation scale, the second-order model was compared to a single-order model in which all ten items measuring prevention and promotion focuses loaded on one factor (goal orientation). The fit index for the single-order factor revealed that the model provides a poor fit to the data (Hu and Bentler 1999) (χ^2 = 1377.28, 35 df; CFI = 0.70; SRMR = 0.17; GFI = 0.71; RMSEA = 0.24. The χ^2 difference test results (χ^2 = 1239.11, df = 1) strongly support the conclusion that promotion and prevention do not represent a single-order goal orientation construct.

Although the researchers were able to achieve a shorter yet more acceptable scale, the fact that the correlation between promotion and prevention was not significant (r = 0.26) and that the loadings of each prevention and promotion dimension on the higher-order construct were not similar in magnitude (prevention = 0.30, promotion = 0.87) and significant for one dimension (promotion, t = 3.2) suggests that the dimensions are different constructs (see Voss et al. 2003). Finally, the second-order model was compared to a two-factor model of promotion and prevention focus. The fit indices for the two-factor model were identical to those obtained for the second-order factor. These results suggest that promotion and prevention focuses are in fact two separate constructs.

In addition, we examined item reliabilities, tests of composite reliability, and average variance extracted for the original scale and reduced one. The composite reliabilities for the two scales were acceptable and around 0.8, providing evidence in support of the measures' reliability (Fornell and Larcker 1981; Gerbing and Anderson 1988). Average variance extracted measures the amount of variance captured by a construct in relation to the variance due to random measurement error. The estimates of average variance extracted for both scales were below the 0.5 minimum cutoff suggested by Bagozzi and Yi (1988). More specifically, for the original scale, the AVE for the prevention focus construct was 0.37, and for the promotion construct, the AVE was 0.37. However, these values improved for the reduce scale. The AVE for the prevention focus has improved to 0.43, and for the promotion construct, the AVE has improved to 0.49.

To establish the evidence for the discriminant validity among the constructs, we compared the shared variance = 0.067 with AVE. The discriminant validity is established between two constructs if the AVE of each one is higher than the shared variance. The AVE is 0.43 for the prevention orientation construct and 0.49 for promotion orientation. Since the AVE values of the two constructs are higher than the squared multiple correlation, discriminant validity among the latent variables is supported.

To sum up, the SEM results, the significant χ^2 difference test, and the improvement in AGFI taken together reveal that the ten-item scale (five items measuring promotion orientation and five prevention orientation) is a better fitting model than the 18-item scale. The scales representing promotion and prevention focus demonstrate both discriminant and statistical conclusion validity.

TABLE 1
CONSTRUCT MEASURES AND VALIDITY

Construct Measures and Validity				
Construct	*Items*	*Std Loading*	*Composite Reliability*	*AVE*
Prevention Orientation	I often imagine myself experiencing bad things and fear what might happen to me.	0.79	0.79	0.43
	I often think about the person I am afraid I might become in the future.	0.63		
	I often worry that I will fail to accomplish my academic goals.	0.64		
	I am more oriented toward preventing losses than I am toward achieving gains.	0.60		
	I frequently think about how I can prevent failures in my life.	0.62		
Promotion Orientation	I typically focus on the success I hope to achieve in the future.	0.83	0.82	0.49
	In general, I am focused on achieving positive outcomes in my life.	0.66		
	I often think about the person I would ideally like to be in the future.	0.65		
	I often imagine myself experiencing good things that I hope will happen to me.	0.63		
	I frequently imagine how I will achieve my hopes and aspirations.	0.70		

Empirical Test of the Nomological Model

The purpose of this analysis is to further ascertain whether, as expected, the goal orientation items represent two different constructs or are in fact two dimensions of the same construct (promotion orientation and prevention orientation). In pursuing toward our objective, a partial mediation model was estimated in which paths were created from the elemental traits to the compound, situational, and surface traits and paths were run from the compound to the situational and surface traits.

Single indicators were employed for the elemental and surface traits. Following convention, we assumed that the warranty purchase construct had a reliability of 0.85 for model estimation (Cannon and Hombourg 2001). Given this assumption, the elemental and surface traits measurement errors were fixed at $(1 - \alpha)$ times the variance of the scale score. This approach of model estimation is consistent with prior literature (i.e., MacKenzie, Podsakoff, and Ahearne 1998). The model was estimated via structural equation modeling using LISREL 8.5. If goal orientation is in fact a single construct, its predictors and consequences should remain the same when modeling goal orientation as two separate constructs.

The analysis began with an assessment of the measurement model. Because the measurement properties of the elemental traits were previously supported, the measurement model was performed only on the compound, situational, and surface traits. Fit statistics for the model when goal orientation was specified as a single construct were poor ($\chi^2 = 776.72$, df = 165, CFI = 0.85, RMSEA = 0.12). A second measurement model was estimated in which goal orientation was modeled as two separate constructs, promotion orientation and prevention orientation. The fit indices were excellent ($\chi^2 = 336.43$, df = 146, CFI = 0.94, RMSEA = 0.06). This model outperforms and better fits the data than the previous model in which goal orientation was modeled as a single construct. This indicates that goal orientation is better modeled as two separate constructs than as a single construct.

Next, a partial mediation model was estimated in which paths were created from the elemental traits to the compound, situational, and surface traits and paths were run from the compound to the situational and surface traits. Multiple indicators were employed for the compound and situational traits. This model allows for examining the nomological network as well as identifying any unexpected relationships. Consistent with 3M Model principles, the elemental traits act as control variables that help avoid missing variables problems. Again, two models were estimated. In the first, goal orientation was modeled as a single construct; in the second, goal orientation was modeled as two separate constructs: promotion orientation and prevention orientation.

When goal orientation was specified as a single construct in the nomological net, the fit indices for the first model were poor ($\chi^2 = 1085.16$, df = 294, CFI = 0.85, RMSEA = 0.10). In this model, the following constructs were found to be significant predictors for the goal orientation construct: material resource needs ($t = 2.57$, $p = 0.01$) and body needs ($t = 2.62$, $p = 0.01$). Additionally, two constructs were found to be significant outcomes for the goal orientation construct: value consciousness ($t = 2.04$, $p = 0.05$) and financial conservatism ($t = 2.06$, $p = 0.05$). Finally, two constructs were significantly related to warranty purchase: value consciousness ($t = 2.49$, $p = 0.01$) and the material resources need ($t = 2.16$, $p = 0.05$). Table 2 below summarizes the predictors and the outcomes for the goal orientation construct.

When specifying goal orientation as two constructs in the nomological net, the fit indices were excellent ($\chi^2 = 537.24$, df = 283, CFI = 0.94, RMSEA = 0.05). Three of the constructs were found to be significant predictors for the prevention orientation construct: introversion ($t = 3.43$, $p = 0.01$), consciousness ($t = -2.38$, $p = 0.01$), and emotional instability ($t = 4.14$, $p = 0.01$). Additionally, two constructs were found to be significant predictors for the promotion orientation construct: the need for material resources ($t = 3.07$, $p = 0.01$) and body resource needs ($t = 3.23$, $p = 0.01$). Furthermore, in this model, none of the constructs was a significant outcome for either the prevention orientation or the promotion orientation constructs. Finally, two constructs were significantly related to warranty purchase: value consciousness ($t = 2.45$, $p = 0.01$) and the material resources need ($t = 2.12$, $p = 0.05$). Table 3 below summarizes the predictors and the outcomes for the prevention and the promotion orientation constructs.

TABLE 2
NOMOLOGICAL NETWORK FOR THE GOAL ORIENTATION CONSTRUCT

Goal Orientation Predictors	**T value**
Material resource needs	(t = 2.57, p = 0.01)
Body needs	(t = 2.62, p = 0.01).
Goal Orientation Outcomes	**T value**
Value consciousness	(t = 2.04, p = 0.05)
Financial conservatism	(t = 2.06, p = 0.05).
Warranty Purchase Predictors	**T value**
Value consciousness	(t = 2.49, p = 0.01)
Material resource needs	(t = 2.16, p = 0.05).

TABLE 3
NOMOLOGICAL NETWORK FOR THE PREVENTION AND PROMOTION ORIENTATION CONSTRUCTS

Prevention Orientation Predictors	**T value**
Introversion	(t = 3.43, p = 0.01)
Consciousness	(t = -2.38, p = 0.01)
Emotional instability	(t = 4.14, p = 0.01).
Promotion Orientation Predictors	**T value**
Need for material resources	(t = 3.07, p = 0.01)
Body resource needs	(t = 3.23, p = 0.01)
Warranty Purchase Predictors	**T value**
Value consciousness	(t = 2.45, p = 0.01)
Material resource needs	(t = 2.12, p = 0.05).

GENRAL DISCUSSION

The purpose of this research was to examine the psychometric properties of the individual goal orientation construct. In the study, the items from the Lockwood et al. (2002) goal orientation scale were administered to 280 undergraduate students from a large midwestern university. Preliminary analysis revealed the scale had very poor psychometric properties. After a series of structural equation models, a final scale was obtained that was composed of ten items, five measuring promotion orientation and five measuring prevention orientation. The two dimensions had good discriminant validity. The correlation

between the two scales was 0.26, a signal that they are tapping different domains. To further test whether promotion and prevention are two separate constructs or two dimensions of a single construct, the nomological network for promotion and prevention was investigated. Two measurement models were built. The first specified goal orientation as a second-order construct of two dimensions (promotion versus prevention). The second model specified goal orientation as two separate constructs: promotion orientation and prevention orientation. The fit indices revealed that specifying goal orientation as two constructs produces a better fitting model.

Additionally, examining the structural relationships in the two models revealed that the predictors and outcomes of goal orientation were different. For example, when specified as a single construct, the needs for material resources and for body resources were found to be significant predictors of the goal orientation construct. Moreover, two constructs were found to be significant outcomes of the goal orientation construct: value consciousness and financial conservatism. However, when specified as two constructs, three of the antecedent constructs were significant predictors for the prevention orientation construct: introversion, consciousness, and emotional instability. On the other hand, two constructs were significant predictors for the promotion orientation construct: the need for material resources and for body resources. Finally, none of the constructs was a significant outcome for either the prevention orientation or the promotion orientation constructs.

RESEARCH LIMITATIONS AND FUTURE RESEARCH

Using a student sample is a limitation in this research. Although previous literature showed the adequacy of the Lockwood et al. (2002) scale on a student sample, the response patterns for promotion and prevention were different. For promotion items, the response pattern was lower than the midpoint. In contrast, the response pattern for prevention items was close to the midpoint. Future research should generalize the findings by obtaining the data from a more balanced sample.

Aside from the conceptual problems that Lockwoods' et al scale is suffering from, we strived to shorten this scale to reach a better model fit. Having said that, we did achieve a reliable scale, but as table 1 show, however, the average variance extracted for the two constructs are below the minimum cut off point of 0.5, which may suggest that the validity for the two constructs is compromised. A new sample is needed in the future to confirm our conclusion.

A number of scales have been used to measure individuals' goal orientations. These scales, however, suffer from methodological flaws: dimensionality (BIS and BAS; Carver and White 1994), social desirability (RFQ; Higgins et al. 2001), generalizability (Lockwood et al. 2002), and poor model fit (RFS; Fellner et al. 2007). Future research should examine the psychometric properties and compare and contrast these different scales. This is important from a theoretical perspective because the results will improve understanding of the goal orientation structure and determine which of these scales, if any, is most suitable.

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