Personality Differences in Hope and Optimism on Consideration of Future Consequences and
Goal Motivation

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Abstract

Hope helps us maintain an optimistic outlook for the future and hold the belief that our goals will be met. Hope can explain motivation of several behaviors related to physical and mental health. Hope has two elements: agency and pathway, which refer to distinct styles of hope an individual may have in a variety of situations. Hope for a positive outcome in the future may be related to how an individual considers their actions and the impact they may have in the future. Previous research has suggested specific personality traits may become more prominent when environmental factors are present. Findings indicate hope has an impact when considering the future implications of one's actions. Additionally, select personality traits appear to play a role in the relationship between hope, goal motivation, and consideration of future consequences.

Hope is defined as a “desire accompanied by expectation of or belief in fulfillment” (Merriam-Webster, 2018), and researchers define hope as “an overall perception that goals can be met” (see Snyder et al., 1991 for review). Broadly, these definitions can have an individual meaning of having a desire for a future plan and strongly wanting that plan to unfold.

Hope is a major motivational force behind human behavior; personal meanings of hope greatly differ between individuals, and each person has an expectation for their future. Snyder and colleagues (1991) state the definition of hope has changed from a desire of something to happen to focus on goals, wherein the most accepted definition of hope is an overall perception that goals can be met (Snyder et al., 1991; see Snyder et al., 1991 for review). According to previous research, possessing expectations of goal attainment may explain diverse human behaviors related to physical and mental health, such as somatic issues (Erickson et al., 1975; Gottschalk, 1974; Melges & Bowlby, 1969). By expanding on previous research, Snyder and colleagues defined hope as a construct composed of two interrelated elements. The first is *agency*, which refers to an individual’s sense of successful determination to meeting the goals in the past, present, and future. The second is *pathways*, which refers to the individual’s sense of being able to formulate successful plans to achieve their goals. In short, they define hope as a “cognitive set that is based on a reciprocally derived of successful (a) agency (goal-directed determination) and (b) pathway (planning of ways to meet goals)”.

Snyder et al. (1991) makes clear that although two components of hope are reciprocal, additive, and positively related, they are not synonymous. Individuals who have a sense of agency generally perceive pathways to reach achieve their goals, but this is not guaranteed. Conversely, an individual may perceive the pathway to a goal but lack agency. To maintain movement toward life goals an individual must have a sense of agency and a sense of pathways

to be functional; both agency and pathways are necessary, and neither are enough to define hope independently. Previous conceptualizations of hope have postulated people are adaptive in that they are goal directed, however these explanations fail to detail the pathways by which goals are actually pursued (Snyder et al., 1991).

Hope is not explicitly associated with expectations of goal achievement, but instead by the perception that the goal can be attained is a possibility (Nelissen, 2017); in other words, expecting a goal to be accomplished is not enough, the individual must first believe the goal attainable. The motivational force of hope is well-established (Miceli & Castelfranchi, 2010; Downie, 1963), and is positively associated with goal-directed behavior even when probabilities and outcomes are unknown. In addition, hope has been shown to buffer against consequences of negative feedback on goal progress (Miceli & Castelfranchi, 2010; Pettit, 2004).

Research shows the extent to which an individual considers the future implications of their current behavior has significant impact on their behavior choice and life outcomes (Strathman et al., 1994). Strathman and colleagues (1994) developed the Consideration of Future Consequences Scale and noted “that there are clear and reliable individual differences in the extent to which individuals are likely to consider distant outcomes in choosing their present behavior”. In developing the scale, the researchers identified a spectrum where individuals on one end engage in behavior which they believe will have long-term benefits even if immediate consequences are undesirable or costly. On the opposite end of the spectrum are individuals whom are not willing to consider the future implications of their current choices and are not persuaded by information about the future impact of their actions. Instead they wish to maximize any immediate benefits of their behavior despite any costs or possible future benefits.

McCrae and Costa's (1996) Five-Factor Theory of personality is based on a hierarchical structure from narrow and specific to broad and general traits, with Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism being the highest levels of the hierarchy (Costa & McCrae, 1995a). McCrae and Costa (1996) outline several postulates for their Five-Factor Theory with one being plasticity, or the characteristic changes over time in response to biological or environmental changes. Environmental changes may be important because an individual may respond to goal achievement or past experiences with goal striving in different ways. McCrae and Costa (1996) also mention Snyder's (1983) idea of reciprocity, specifically that an individual will selectively influence their environment and collectively create a culture which provides opportunities to express personality traits. Additionally, McCrae and Costa (1996) state that personality consists of a system defined by personality traits and dynamic processes through which they affect the individual's psychological functioning.

Given that individuals are motivated by either immediate or non-immediate consequences, hope may have considerable overlap when considering the future consequences of current behavior. If a person has low hope they may be less interested in considering the possibilities of the future, whereas someone with greater hope may consider the future implications of their current choices. Following this logic, an individual may alter their actions because of select personality traits in response to their environment and attempt to achieve a desired outcome of a situation.

Two distinct, independent systems for behavioral regulation and motivation, one appetitive and one aversive, have been proposed by several researchers (see Gable, Reis, and Elliot, 2000 for review). Gray's (1987) theory of motivation and emotion provides the foundation for these two neuropsychological systems, which are rooted in comparable animal

research studies (Gable, Reis, & Elliot, 2000): the behavioral activation system (BAS) and the behavioral inhibition system (BIS). The BAS is activated in response to signals of reward and nonpunishment (Gable, Reis, & Elliot, 2000; Gray, 1987). The opposing system, the BIS, is associated with feelings of anxiety and avoidant behavior (Gable, Reis, & Elliot, 2000; Gray, 1990).

If personal traits influence the motivational actions of an individual, an appropriate neuropsychological system must be activated to initialize the change in response to the environment. Carver and White (1994) based their Behavioral Activation and Behavioral Inhibition System Scales (BAS/BIS) on Gray's (1972, 1981) theory of motivation. Gray suggested the BAS controlled anxiety in response to important stimuli and responds to punishment, novelty, and non-rewards, as well as inhibiting behavior which may lead to negative outcomes. Additionally, the BAS is responsible for feelings such as hope, elation, and happiness (Gray, 1990). When the opposing system, the BIS, is activated it causes a reduction in actions toward goals.

The purpose of this study is to determine the moderating factors at work in goal motivation and hope for the future. This study will reveal the mechanism of hope and optimism on consideration of future consequences through personality factors. If the individual is optimistic about a positive outcome of their actions they are more likely to be engaged in said activities. When people experience feelings such as hope and happiness, the BAS is at work and the individual should be motivated to engage in goal-directed activities. Following Gray's neuropsychological theory of approach and avoidance, we expect individuals who have greater levels of hope to show BAS activation and greater consideration of future consequences.

There are four main hypotheses in this study.

- (a) First, it is necessary to determine if indeed hope and optimism are positively associated with consideration of future consequences. We expect hope and optimism to be positively associated, that is, as hope and optimism increase an individual is more likely to consider the potential future consequences of their current actions.
- (b) Second, it is necessary to determine if hope and optimism are associated with behavioral activation or behavioral inhibition. We expect hope and optimism to be positive associated with behavioral activation; as hope and optimism increase movement toward goals also increases. Contrary, if an individual has low hope and optimism we expect increased behavioral inhibition, that is, an individual will be unmotivated to engage in their goals.
- (c) To demonstrate how hope and optimism affect consideration of future consequences, the BIS and BAS scales will be entered into a conditional process model. If the BAS is responsible for feelings such as hope, elation, and happiness, a desire to engage in goal-directed activities should be reflected in increased consideration of future consequences when hope is increased and the BAS is active. Specifically, this should be true when the drive and reward responsiveness domains are active.
- (d) Lastly, we will determine if there are personality differences between hope and optimism on consideration of future consequences through either behavioral activation or behavioral inhibition systems. If personality traits contribute to behaviors directly related to motivation, we expect high levels of a personality trait to be associated with greater BAS activation, greater hope and optimism, and greater consideration of future consequences, compared to scores of low levels of the personality trait.

Method

The study was shared on several social media websites and invited volunteers to participate. Participants were not compensated for their participation; however, in the informed consent and debriefing sections participants were provided with a contact email and offered the opportunity to obtain aggregate data results when the study was completed.

Participants initially completed a demographics questionnaire and reported demographics such as age, education level, and sex.

Next, participants completed a personality questionnaire. Following this they completed the behavioral activation and inhibition scales and a measure of optimism. Lastly, participants completed measures of hope and consideration of future consequences.

Participants

Two hundred and twenty-two participants ($M_{age} = 24.97$ years old, 101 female, 116 male, 4 reported nonbinary, 1 reported as agender) were recruited online for this study. Full means of scales in the study are reported in Table 1.

Measures

OCEAN.20 (O’Keefe, Kelloway, & Francis, 2012). The OCEAN.20 is a brief 20-item scale which measures the Five-Factor Theory personality traits: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The OCEAN.20 has shown to have good internal consistency: O = .783, C = .913, E = .865, A = .846, N = .805.

Behavioral Inhibition and Behavioral Activation System Scales (BIS; Carver & White, 1994). The BIS/BAS Scales measure approach and avoidance of goals through two

motivational systems: a behavioral inhibition system and a behavioral activation system. The BAS has 3 distinct subscales, and all scales and subscales have demonstrated good internal consistency: BIS = .846, BAS-RR = .748,

Life-Orientation Test (Optimism; Scheier, Carver, & Segerstrom, 2010). The LOTR is a 10-item measure of optimism versus pessimism, revised from the original LOT (Scheier, Carver, & Bridges, 1994). The LOT has demonstrated good internal consistency: $\alpha = .812$.

Adult Hope Scale (Hope – Agency, Hope - Pathways; Snyder, Harris, Anderson, Holleran, Irvin, Sigmon, et al., 1991). The Adult Hope Scale is a 12-item measure of a person's level of hope which is divided into two subscales based on Snyder's cognitive model of hope: Agency (goal-directed energy) and Pathways (planning to accomplish goals). The two subscales can be combined to obtain a total hope score. The AHS has demonstrated adequate internal consistency: $\alpha = .688$.

Consideration of Future Consequences (CFC; Strathman, Gleicher, Boninger, & Edwards, 1994). The CFC scale is a measure of the individual differences related to the notion of future thought, which is related to important concepts such as future time perspective and orientation toward the future (see Strathman, Gleicher, Boninger, & Edwards, 1994 for review). The CFC scale has demonstrated good internal consistency: $\alpha = .802$

Results

A correlation matrix was populated prior to conducting analyses to determine the underlying associations between all variables, as reported in Table 2. As expected, hope and optimism were positively associated with the behavioral inhibition and behavioral activation

drive and reward responsiveness subscales. Additionally, pessimism was associated with the behavioral inhibition system.

To determine the predictive nature of hope, a conditional process model (mediation model) was used and three components of hope were included in the model: Agency (HA), Pathways (HP), and Total (HT). When hope was used as a predictor there was a significant direct effect of all three components of hope on consideration of future consequences: HA = .9605, $se = .1614$, [.6424, 1.2786], HP = .5365, $se = .1893$, [.1634, .9097], HT = .5112, $se = .0994$, [.3153, .7071]. The BIS and BAS scales did not have any significant indirect of hope on consideration of future consequences in any of the analyses.

Optimism was entered into the model as a predictor of consideration of future consequences, and the behavioral inhibition and behavioral activation scales were entered as mediators. Results revealed optimism did not have a significant direct effect on consideration of future consequences (.1572, $se = .0964$, [-.0327, .3471]), however the BIS had a significant indirect effect (.0905, $se = .0436$, [.0007, .1718]), as well as the BAS-RR (.0527, $se = .0322$, [.0003, .1254]).

Pessimism was entered into the model as a predictor of consideration of future consequences, and the behavioral inhibition and behavioral activation scales were entered into the model as mediators. The result of the analysis revealed pessimism did not have a significant direct effect on consideration of future consequences (.2359, $se = .1749$, [-.1087, .5806]), however the BIS had a significant indirect effect (.1507, $se = .0639$, [.0732, .3902]).

To further expand on the understanding of the pathway through which hope and optimism affect consideration of future consequences, personality traits were included in the model. Only models that showed significant mediation were included in the following analyses.

To investigate the role of personality traits in the relationship between optimism and the BIS and BAS-RR scales on the indirect effect of consideration of future consequences a conditional process model was used. Optimism was entered into the model as a predictor of consideration of future consequences through the BIS and BAS-RR scales, and agreeableness was entered into the model as a moderation variable of the optimism-BIS/BAS-RR scales. Results revealed agreeableness had a significant moderating effect on the mediating relationship between optimism and consideration of future consequences at low, average, and high levels of agreeableness: low (.1801, $se = .0877$, [.0335, .3711]), average (.1957, $se = .0761$, [.0420, .3454]), and high (.2113, $se = .0796$, [.0452, .3597]). Tests of highest order unconditional interaction was nonsignificant: $\Delta R^2 = .0046$, $F(1, 216) = 1.1526$, $p = .2842$

The same analysis was conducted using neuroticism as a moderating variable. Results revealed neuroticism had a nonsignificant moderating effect on the mediating relationship between optimism and consideration of future consequences through the BIS and BAS-RR at low, average, and high levels of neuroticism: low (.0511, $se = .1523$, [-.2491, .3513]), average (.1867, $se = .1440$, [-.0971, .4705]), and high (.1907, $se = .1907$, [-.0535, .6980]). Tests of highest order unconditional interaction was nonsignificant: $\Delta R^2 = .0082$, $F(1, 216) = 2.0326$, $p = .1554$.

To investigate the role of personality traits in the relationship between pessimism and the BIS scale on the indirect effect of consideration of future consequences a conditional process

model was used. Pessimism was entered into the model as a predictor of consideration of future consequences through the BIS, and agreeableness was entered into the model as a moderation variable of the optimism-BIS/BAS-RR scales. Results revealed agreeableness had a significant moderating effect on the mediating relationship between pessimism and consideration of future consequences at low, average, and high levels of agreeableness: low (.0071, $se = .2415$, [-.4689, .4830]), average (-.2060, $se = .1758$, [-.5525, .1405]), and high (-.4191, $se = .2353$, [-.8827, .0446]). Tests of highest order unconditional interaction was nonsignificant: $\Delta R^2 = .0071$, $F(1, 217) = 1.7515$, $p = .1871$

The same analysis was conducted using neuroticism as a moderating variable. Results revealed neuroticism had a nonsignificant moderating effect on the mediating relationship between pessimism and consideration of future consequences through the BIS at low, average, and high levels of neuroticism: low (-.0127, $se = .0322$, [-.0841, .0535]), average (-.0215, $se = .0393$, [-.1081, .0555]), and high (-.0302, $se = .0546$, [-.1522, .0677]). Tests of highest order unconditional interaction was nonsignificant: $\Delta R^2 = .0026$, $F(1, 217) = .6208$, $p = .4316$.

Discussion

Overall the hypotheses were partly supported by the results. Our first hypothesis was partly supported in that hope and optimism were positively associated with consideration of future consequences. This indicated people who have greater hope for the future and an optimistic outlook toward the future are more likely to consider the future consequences of their current behavior. This may also indicate people who are more hopeful and optimistic are more likely to give careful consideration and planning to their actions to reach the desired outcome of their goals. Initial analyses revealed hope predicted consideration of future consequences,

suggesting that individuals who have greater hope for more positive outcomes in the future also tend to be more forward-thinking in that they are deliberate in their planning. When examining the subscales of hope independently, agency suggests that an individual possesses motivation to act and accomplish their goals whereas pathway hope suggests that these individuals have formulated a plan to accomplish their goals. When examining the overall hope score, we can conclude that people who are motivated to achieve their goals as well as have a clearly defined pathway in mind to accomplish their goals, they are more likely to deliberately plan their behavior before acting. As the BIS and BAS scales did not have an impact in this relationship, it may be that hope is a motivator of future planning and overrides the BIS or BAS.

Optimism did not affect forward-thinking; however the significant impact of the BIS and BAS-RR may indicate optimism helps to activate these systems in relation to goal motivation. Specifically, an optimistic outlook toward the future may be influenced by an individual's desire for reward, as indicated by BAS-RR activation. When the BIS is activated and anxiety begins to surface, the behavioral inhibition system and reward responsiveness aspect of behavioral activation may work together and produce performance anxiety. As anxiety begins to surface, the BIS and BAS-RR may work together by inducing performance anxiety and motivating the individual to engage more fully to accomplish their goals.

Pessimism did not directly affect consideration of future consequences, however the indirect effect via behavioral inhibition may indicate as people develop a pessimistic outlook toward the future, they subsequently become reluctant to engage in goal-directed activities because of paralyzing anxiety.

When personality factors were included as a moderator in the mediating relationship between optimism and the behavioral inhibition and activation system scales, agreeableness moderated the relationship at low, average, and high levels of optimism. This suggests if an individual understands their actions may have future negative consequences, and are hopeful for a positive outcome of said goals, they may be more likely to become fully invested in their goals. Carver and White (1994) suggest testing the predictive ability of the BAS scales and theorize the reward responsiveness subscale “appeared to have a larger impact on how people respond to cues of impending reward in the midst of behavioral efforts” (Carver & White, 1994 pp. 330).

The application of results to the general population should be interpreted with caution. Participants in this study were not compensated for their time, and as a result the very nature of the study may have been affected by this. People who were motivated by compensation (e.g., monetary reward) may not have participated in the study because they lacked a desirable outcome.

Future research may include experimental manipulation of the BIS and BAS after measuring personality. Specific goals may be influenced by personality traits where goals such as graduating from university or obtaining a stable career may be influenced by these traits to a larger degree than a goal such as completing an unpleasant work task.

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Table 1

Means and Standard Deviation of Each Variable in the Study (N = 222)

Scale	<i>X</i>	<i>SD</i>
Openness	20.37	4.993
Conscientiousness	17.22	5.859
Extraversion	14.31	6.277
Agreeableness	20.87	4.472
Neuroticism	15.24	6.442
BIS	21.59	8.117
BAS-D	16.15	5.203
BAS-FS	13.52	4.779
BAS-RR	13.52	4.814
Optimism	27.03	9.394
Pessimism	11.47	4.731
Hope (A)	16.68	5.883
Hope (P)	19.31	5.219
Hope	35.99	10.194
CFC	54	12.202

Table 2

Correlations of All Variables Included in the Conditional Pathways Analyses Including Personality Factors

	Open.	Cons.	Extr.	Agre.	Neur.	CFC
BIS	.056	.105	.158*	-.128	-.659***	.23***
BAS-D	-.176**	-.041	-.359***	-.106	.12	-.17**
BAS-FS	-.155*	.175**	-.294***	-.186**	-.148*	.03
BAS-RR	-.116	.014	-.280***	-.220***	-.045	-.17*
Hope (A)	.210**	.112	.299***	.241***	-.308***	.46***
Hope (P)	.279***	.105	.320***	.257***	-.244***	.31***
Optimism	.054	-.009	.293***	.191**	-.386***	.26***
Pessimism	-.036	-.029	.277***	.108	-.290***	-.18**

Note: *** significant at the .001 level; ** significant at the .01 level; * significant at the .05 level.