THINKING ABOUT CHANGE IN THE SELF AND OTHERS: THE ROLE OF SELF-DISCOVERY METAPHORS AND THE TRUE SELF

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People change over the course of their lives, yet little is known about how people think about these changes. We expected that evaluative judgments of changes would relate to the type of metaphors people use to describe those changes. Specifically, we predicted that the more positively a change is evaluated, the more likely it is to be perceived as a self "discovery" (i.e., a change driven by discovering something within the self). Study 1 established a correlational relationship between perceived positivity and self-discovery in changes in both the self and a close other. Study 2 manipulated the valance of the change and found that positive changes were more likely to be endorsed as self-discoveries than negative changes. These findings highlight the importance of self-discovery metaphors in understanding how people make sense of changes in the self and close others. Implications for meaning making, well-being, and narrative research are discussed.

There is little doubt that people change over the course of their lives (e.g., Hopwood et al., 2011; Robins, Noftle, Trzesniewski, & Roberts, 2005; Roberts, Walton, & Viechtbauer, 2006). Yet, little is known about how people

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evaluate and make sense of changes in both the self and other people. We suggest a strong link between the perceived valence of a change and people's beliefs about how the change came about. Specifically, we hypothesized that the more positively a change is evaluated, the more likely it is to be perceived as a case of self "discovery." The logic of this hypothesis rests on widespread lay beliefs that true selves are discovered (Schlegel, Vess, & Arndt, 2012) and that true selves are "fundamentally good" (Newman, Bloom, & Knobe, 2014). Accordingly, a positive change should be seen as a movement *toward* the true self and thus be perceived as a self-discovery. In contrast, a negative change should be seen as a movement *away* from the true self and consequently less driven by self-discovery.

SELF-DISCOVERY METAPHORS AND THE TRUE SELF

Waterman (1984) proposed that self-discovery metaphors help people make sense of the process of identity formation. Discovery metaphors are likened to the activities of scientists and explorers and refer to the act of finding something that already exists. The use of a self-discovery metaphor suggests that one has "found" a characteristic that defines who he or she is and that this part of the self was always, to some degree, within the self. Consistent with this idea, Heatherton and Nichols (1994) report that over 70% of people asked to write a story describing a life change mentioned that they gained increased self-knowledge. Discovered aspects of the self are typically thought of as the constituents of a person's *true* self (Schlegel & Hicks, 2011; Schlegel et al., 2012), something that most people believe to be a relatively immutable set of characteristics (Johnson, Robinson, & Mitchell, 2004) that are important to defining who someone *really* is (Harter & Monsour, 1992).

The link between self-discovery and the true self is important to the current research because people tend to think of *true* selves as "fundamentally good" (Newman et al., 2014). For example, people like their true selves better than their actual selves (i.e., their outward behavior in their daily lives; Schlegel, Hicks, Arndt, & King, 2009) and their "false selves" (Harter, 2002; Harter & Monsour, 1992). They also experience a host of positive psychological benefits when they feel like they are "in touch" with their true selves, such as increased self-esteem (Andersen & Williams, 1985), reduced defensiveness (e.g., Arndt, Schimel, Greenberg & Pyszcynski, 2002), less ego-involved emotions (Vess, Schlegel, Hicks, & Arndt, 2014), increased meaning in life (Schlegel et al., 2009; Schlegel Hicks, King, & Arndt, 2011), and increased decision satisfaction (Schlegel, Hicks, Davis, Hirsch, & Smith, 2013). Further, most people hold a lay theory that the true self should be used to guide one's decision making (Schlegel et al., 2013), suggesting that they explicitly believe the true self is fundamentally good and important.

These tendencies to see one's own true self as positive and psychologically beneficial could be dismissed as simple examples of self-serving biases (e.g., Baumeister, 1998; Sedikides, Gaertner, & Toguchi, 2003). However, Newman and colleagues (2014) intriguingly suggest that people may think of *all* true selves as fundamentally good. Across three studies, Newman and colleagues presented participants with fictitious targets who changed in ways that could be viewed as morally good (e.g., changing from a "deadbeat" dad to a loving and caring father) or morally bad (e.g., changing from a teetotaler to an alcoholic). Participants in all three studies believed that the changes toward the morally good behaviors reflected an emergence of the target's *true* self. The authors concluded that people possess a lay theory that suggests "deep inside every individual, there is something motivating him or her to behave in ways that are virtuous" (p. 203). This work by Newman and colleagues suggests that people not only believe *they* are good inside (as might be predicted from a self-serving bias perspective), but also hold the broader conviction that *all* people are good inside.

CURRENT RESEARCH

Building from the research described above, we examined whether evaluations of changes in the self and others are linked to people's perceptions of how those changes came about. We predicted that the perceived positivity of changes in the self and others would positively predict the belief that those changes were examples of self-discoveries. We made our predictions based on the previously described research linking the true self to self-discovery metaphors (Schlegel et al., 2012) and research demonstrating that positive changes in others are viewed as more representative of an authentic self (Newman et al., 2014). Thus, a change for the better should be viewed as more representative of the true self and therefore more consistent with the notion of true self-discovery, and vice versa.

One notable aspect of our approach is that we examined the perception of changes in *both* the self and close others in both studies. This allowed us to examine the potential specificity and generality of any observed relationships. Newman and colleagues (2014) suggested that people may think *all* true selves are good; however their work only examined hypothetical targets. It is possible that changes in people that are actually known are judged differently than such hypothetical targets. After all, changes in a close other may lead the observer to question his or her understanding of the close other and wonder if the inferences he/she has previously made about the actor were ever accurate. In turn, this could threaten the desired belief that one's understanding of the world is correct (Festinger, 1957; Fromm, 1941; Hardin & Higgins, 1996). In this way, changes in "real" people may be more likely to be degraded than changes in hypothetical targets.

Of course, changes in the self are also at odds with consistency motives (e.g., Greenwald, 1980; Kernis & Goldman 2006; Swann, 1990) and research suggests that both negative personality changes (e.g., increasing neuroticism) and positive personality changes (e.g., decreasing neuroticism, increasing conscientiousness) are associated with poorer subjective well-being and health (Eizenman, Nesselroade, Featherman, & Rowe, 1997; Human, Biesanz, Miller, Chen, Lachman, & Seeman, 2013; Mroczek & Spiro, 2007). Such evidence might imply that changes in the self would be seen as negative. However, a self-enhancement perspective suggests (e.g., Baumeister, 1998; Sedikides, Gaertner, & Toguchi, 2003) that it less likely that changes in the self will be degraded. Thus, in light of these divergent perspectives on perceiving change in the self and others, it seems important to examine perceptions of change in *both* the self and "real" others to test the full contours of our guiding analysis.

STUDY 1

Study 1 was designed as an initial investigation into the relationship between discovery endorsement and positivity judgments. Participants were first asked to describe a change in themselves or a close other. This approach was thus broader than the approach of Newman et al. (2014) because it examined non-hypothetical changes that did not necessarily have specific moral implications. An examination of the essays in Study 1 indeed revealed a wide variety of changes including changes in traits, religious beliefs, behaviors, attitudes, and motivation. After writing about a change, all participants evaluated the valence of the change and indicated the extent to which the change reflected a process of self-discovery. We predicted that the more positively a change was evaluated, the more likely it would be considered a form of self-discovery.

Study 1 also explored the idea that self-discovery metaphors may be associated with measures of personal well-being. Previous work on self-discovery metaphors has found that endorsing the idea that true selves are discovered (in general) positively predicts meaning in life judgments (Schlegel et al., 2012). Thus, we conducted exploratory correlation analyses to examine the relationship between discovery beliefs, change evaluation, and three well-being measures (meaning in life, self-esteem, and satisfaction with life).

METHOD

Participants. Ninety-five (76 females) introductory psychology students at Texas A&M University participated for course credit. Participants were predominantly White (67%). In accordance with recent data collection practices (Simmons, Nelson, & Simonsohn, 2011), we established upfront

to collect as many cases as possible in one week, with a maximum of 100 (i.e., 50 cases in each condition). This resulted in 95 participants completing the study. All collected observations were included in the reported data analyses.

Materials and Procedure. Participants completed the study on individual computers in private laboratory cubicles in small groups.

They were randomly assigned to write an essay about a change in either themselves or a close other. Those assigned to the close other condition were told to "think of a specific person who is a close friend of yours," and were asked to type the name of the person into a text box. The software was programmed to place the name that was entered in this box into the subsequent manipulation and dependent measures. This was done to keep participants focused on the same individual throughout the study. Participants then read the following prompt (modifications for close other condition presented in brackets):

> People often change over time. We'd like you to take a few minutes and think about one way that you have [(friend's name) has] changed over time. Below, please describe the change that occurred and reflect on why/how this change may have occurred. Please try to really get into the writing task, and provide as much detail as possible about this topic.

After the writing task, participants completed a series of items designed to assess evaluations of the change and perceptions that the change was due to self-discovery.

For the overall evaluative judgment of the change, participants responded to five items: "The change I wrote about made me [(friend's name)] a better person"; "The change I wrote about made me [(friend's name)] more likable"; "I am happy about the change in who I am [(friend's name) is)]"; "I am glad I [(friend's name)] changed"; and "If I could go back in time, I would still want [(friend's name)] to make the same change." Responses were made on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale and averaged into a single composite ($M = 5.55$, $SD = 1.29$, $\alpha = .92$).

For the endorsement of discovery beliefs, participants responded to three items: "The change I wrote about is a product of me [(friend's name)] discovering more about who I am [he/she is] inside"; "The change I wrote about is something I [(friend's name)] discovered about my [his/her] self"; and "The change I wrote about reflects me [(friend's name)] becoming more like my [his/her] TRUE self." Responses were made on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale and averaged into a single composite ($M = 5.50$, $SD = 1.16$, $\alpha = .82$).

Finally, participants completed measures of well-being. Meaning in life was measured by the five-item presence subscale of the Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006), ($M = 5.00$, $SD = 1.39$, $\alpha = .92$; sample item "I understand my life's meaning"), self-esteem

was assessed by the ten-item Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; $M = 5.24$, $SD = 1.04$, $\alpha = .86$; sample item "I feel that I have a number of good qualities"), and life satisfaction was measured by the five-item Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985; $M = 4.92$, $SD = 1.24$, $\alpha = .85$; sample item "I am satisfied with my life").

RESULTS AND DISCUSSION

The primary analysis was to examine the relationship between evaluative judgments and discovery endorsement. These two variables were significantly correlated at the bivariate level ($r = .60$, $p < .001$). Further, a hierarchical regression predicting discovery endorsement from evaluative judgments, target (i.e., self vs. other), and their interaction, revealed a main effect of evaluative judgments, $b = .59$, $t = 7.52$, $p < .001$, such that participants who felt more positive about the change more strongly endorsed discovery beliefs. By comparison, the main effect of target, $b = -.39$, $t = 1.91$, $p = .06$, and the interaction between the two variables, $b = .10$, $t = .05$, $p = .62$, were not significant (though the effect of target was marginal, suggesting a tendency to endorse changes in the self as discoveries more than changes in others).

An ancillary independent samples t-test revealed that participants had more positive evaluations of a change in the self ($M = 6.02$, $SD = 0.80$), compared to a change in a close friend ($M = 5.15$, $SD = 1.49$), $t(80.82) = 3.62$, $p < .001$, Cohen's $d = .81$. This is consistent with research that shows people tend to judge themselves more favorably than others (Brown, 1986; Chambers & Windschitl, 2004). A second t-test also indicated that discovery endorsement did not differ between the self ($M = 5.57$, $SD = 1.05$) and close other conditions ($M = 5.44$, $SD = 1.25$), $t(93) = .51$, $p = .61$, Cohen's $d = .11$, suggesting that participants were equally likely to judge changes in the self and others as reflective of discovery.

Supplementary Data Coding and Analyses. As a supplementary analysis, we asked five undergraduate coders (naive to study hypotheses) to read the essays generated by the participants and answer a few questions about each. The purpose of this analysis was to determine whether simply reading essays describing real personality changes would naturally elicit the same relationship between (perceived) valence and discovery. Observing a similar relationship among naive coders would provide evidence for the robustness of the link between these two constructs in people's minds and further help to address concerns that our results are driven by self-enhancement motives. Coders specifically answered two questions regarding the positivity of the change: "In my opinion, the person in the essay seems to have made a change for the better"; and "In my opinion, the change written about makes the person more likeable"; and one question regard-

ing the extent to which the essay conveyed a sense of self-discovery: "In my opinion, the change in the essay is a product of the person discovering more about who they are inside." All ratings were made on a 1 (*not at all*) to 7 (*very much*) scale. The coders were instructed not to *"worry about what words they literally use, we're just interested in your general impressions based on the information provided in each essay."* Despite instructions that allowed for a great deal of subjectivity when answering the questions, the five raters scored the essays very similarly (assessed via two-way mixed intraclass correlation coefficients for each of the three questions; average measure ICCs = .90, .85, .80) and we averaged their ratings. The two positivity items were highly correlated ($r = .90$, $p < .001$) and were thus combined into a composite. Interestingly, the naive coder's ratings were very similar to the participant's ratings ($r = .74$, $p < .001$, for positivity ratings; $r = .65$ for discovery ratings), suggesting convergence not only among the naive coders but across all raters.

We then examined the correlations between the positivity ratings and the discovery item. The results revealed that the more positive the essays were judged to be, the more likely they were to also be judged as more indicative of self-discoveries ($r = .77$, $p < .001$). This suggests that when people read essays about changes for the better, they also see those changes as likely to be self-discoveries, even if they do not know the target. As self-enhancement biases can extend, albeit to a lessened degree, to close others (e.g., Lench, Smallman, Darbor, & Bench, 2015; Pahl, Eiser, & White, 2009), the ratings of coders that did not know the targets provides further evidence that the relationship between these constructs is not driven by self-enhancement biases. Rather, it seems that the connection between these constructs forms such a strong lay theory for people that simply reading about a change that is for the better naturally conjures a sense of self-discovery (a proposition that is consistent with the findings of Newman et al., 2014). As an illustrative example, below is the text from one essay rated by the coders as one of the two most positive essays in the sample ($M = 6.5$):

I've known X since our first day of elementary school. X was always very shy and very humble. She began cheerleading classes when she was in first grade, and being that it was her first year, she wasn't very good. As time progressed, though, she gained more skill and more knowledge. By the time she entered high school, she stuck out amongst her peers when it came to cheerleading. Because of this, she was named captain of the freshman cheer squad. Later in her high school career, she was junior varsity captain and then varsity captain. Naturally, along with skill comes confidence. She was finally getting to the point where she could cheer in front of hundreds of people without getting nervous. I've seen such a change in confidence over the years in X. The most important thing, though, is that the humility stayed. X now cheers for X University not in front of hundreds, but in front of thousands of people each and every weekend. This is not something anyone would ever assume if they knew X in the first grade.

Compare this to the text of an essay rated by the coders as the least positive (M = 1.8):

> Junior year of high school X started sleeping with a lot of boys and partying a lot. Before, she was the most innocent girl, and even a little awkward around boys. She started talking about me behind my back and pretending that she was better than everyone else. I think all of this was happening because she had just become one of the cheer captains, and was just beginning to be noticed by boys.

Neither makes explicit mention of the words "discovery," "true self," or "genuine," yet the text itself seems to naturally conjure up the idea that the person written about is either becoming more or less like who they "truly are" inside. In this way, "discovery sequences" may be a common theme in people's life stories, much like redemptive sequences (McAdams, 2005).

Exploratory Well-Being Analyses. Discovery beliefs (specific to the change participants wrote about) were positively correlated with presence in meaning in life (r = .24, p = .02), self-esteem (r = .33, p = .001), and satisfaction with life (r = .32, p = .003). These correlations appear to be independent from the positivity of those changes, as evaluation scores were not significantly correlated with any of these three well-being measures (ps > .17). Further, these relationships were not moderated by target (i.e., self vs. other) when the interaction between valance and target was tested in a multiple regression. This suggests that self-discovery metaphors relate to well-being, even when they are applied to close others. This provides some indication (consistent with Schlegel et al., 2012) that self-discovery beliefs are a marker of (or can help foster) positive psychological functioning.

STUDY 2

Study 2 was conducted to extend the findings of Study 1 by ruling out alternative explanations for the relationship between the perceived positivity of changes in the self and others and self-discovery beliefs. Due to the very open-ended nature of the prompt used in Study 1, a host of individual differences could account for the observed relationship. For instance, participants with high level of trait optimism may be more likely to think that the change they wrote about is both positive and a self-discovery. Study 2 better accounts for these types of alternative explanations by manipulating the valence of the change participants were asked to write about. That is, the study was a 2 (target: self, other) × 2 (valence: positive, negative) design that crossed the manipulation from Study 1 with a manipulation of change valence. Specifically, participants were randomly assigned to reflect upon a change they considered to have been for the better or for the worse in either the self or a close friend, and then reported their endorsement of dis-

covery beliefs using the scale from Study 1. We predicted that positive (vs. negative) changes would significantly increase discovery endorsement, regardless of whether or not the change occurred in the self or a close other.

METHOD

Participants. One hundred eighty-six (111 females, 30 did not report gender) introductory psychology students at Texas A&M University participated for course credit. Participants were predominantly White (62%). Our goal was to collect 200 participants (i.e., 50 cases in each condition), however, the semester ended during data collection, closing our participant pool, resulting in 186 participants completing the study. All observations are reported and included in all analyses.

Materials and Procedure. The study procedure was largely the same as Study 1. Participants in the positive, self condition read the following prompt (changes for the negative condition in brackets):

> People often change over time. Some of these changes are positive, meaning the person changed for the better, and some of these changes are negative, meaning the person changed for the worse. We'd like you to take a few minute and think about one way that you have changed over time that you believe was a positive [negative] change (for the better [worse]). Below, please describe the positive [negative] change that occurred and reflect on why/how this change may have occurred. Please try to really get into the writing task, and provide as much detail as possible about this topic.

Participants in the close other condition read the same prompt except that their friend's name was inserted into the text where appropriate (as in Study 1). After completing the writing task, participants were asked the same self-discovery questions from Study 1 ($M = 4.66$, $SD = 1.39$, $\alpha = .76$).

Participants also completed other measures not relevant to our primary hypotheses (e.g., lay theories of human nature; all measures available upon request).

RESULTS AND DISCUSSION

A 2 (target: self, other) × 2 (valence: positive, negative) ANOVA was used to evaluate the effect of the two manipulations on the endorsement of discovery beliefs. There was a main effect of valence, $F(1, 186) = 130.66$, $p < .001$; $\eta^2 = .41$, with participants reporting stronger discovery endorsement when considering a positive change ($M = 5.60$, $SD = 0.92$) than a negative change ($M = 3.80$, $SD = 1.88$, $d = 1.22$). There was not a significant interaction between valence and target, $F(1, 186) = 0.001$, $p = .97$, $\eta^2 = .00$, nor was there a significant main effect of target, $F(1, 186) = 1.96$, $p = .16$, $\eta^2 = .01$. Study

2 provides converging evidence that when considering a positive change, people are more likely to think of that change as a case of self-discovery.

Supplementary Data Coding and Analyses. We asked four undergraduate coders (naive to study hypotheses) to code the essays generated by the participants on the same three questions used in Study 1. The raters again scored the essays very similarly (average measure ICCs = .95, .94, .83) and we averaged their ratings. The two valence items were again highly correlated (r = .99, p < .001) and combined into a composite.

The correlation between participant and coder-rated discovery was smaller than in Study 1, but still significant (r = .270, p < .001). Participants didn't report on the perceived valence of the change, thus we could not compare coder and participant ratings on valence. We did compare the coder's valence ratings across conditions as a manipulation check, however. The results revealed the expected significant effect of the valence manipulation, $F(1, 186)$ = 82.06, p < .001, η^2 = .31 ($M_{NegCond}$ = 2.42, $SD_{NegCond}$ = 3.38; $M_{PosCond}$ = 5.83, $SD_{PosCond}$ = .71; d = 1.40). There was not a significant interaction between valence and target, $F(1, 186)$ = 1.71, p = .19, η^2 = .01, nor was there a significant main effect of target, $F(1, 186)$ = .54, p = .46, η^2 = .003.

Of primary interest, coder's ratings of perceived valence and discovery were highly correlated (r = .94, p < .001), replicating Study 1. Further, when the coder's ratings were compared across conditions, the same pattern of results that emerged for the participant ratings was observed. Specifically, there was a strong main effect of valence, $F(1, 186)$ = 23.39, p < .001, η^2 = .11, with coders detecting stronger discovery endorsement when considering a positive change (M = 5.46, SD = .60) than a negative change (M = 3.69, SD = 3.24, d = .76). There was not a significant interaction between valence and target, $F(1, 186)$ = 2.02, p = .16, η^2 = .01, nor was there a significant main effect of target, $F(1, 186)$ = .39, p = .53, η^2 = .002. This provides further support to the idea that positive changes naturally seem to conjure ideas related to self-discovery.

GENERAL DISCUSSION

Despite the fact that people often change over the course of their lives, little is known about how people evaluate and think about these changes. This seems important given that when people change, those changes have the potential to threaten our desires for consistency in the self and others (Festinger, 1957; Fromm, 1941; Hardin & Higgins, 1996; Landau et al., 2004). Personality changes are also at odds with our motivation to believe that our understanding of the world is correct (Festinger, 1957; Fromm, 1941; Hardin & Higgins, 1996). In this way, people may employ metaphors to help them "make sense" of personality changes (e.g., Landau, Robinson, & Meier, 2013).

Two studies were conducted to examine our hypothesis that people are likely to engage self-discovery metaphors when they perceive a change in the self or another person as being positive. Across both studies, results revealed a clear and strong relationship between the judgment that someone has changed for the "better" and the endorsement of the idea that the change was an example of self-discovery. Specifically, in Study 1, participants were asked to write about any change they had observed within themselves or a close other and respond to questions about that change. Results revealed a strong positive correlation between evaluative judgments and discovery endorsement. In Study 2, we manipulated evaluative judgments by explicitly asking participants to write about changes that they believed were for the better or the worse. Results revealed that, regardless of whether the target was the self or close other, positive changes were far more likely to be endorsed as self-discoveries than negative changes.

Taken together, these studies are the first to suggest that people employ self-discovery metaphors when they think about real changes in the self and others. These studies are also the first to identify a variable (i.e., perceived positivity of the change) that predicts *when* self-discovery metaphors are likely to be employed. Given that people think of discovered self-aspects as representative of a person's "true self" (Schlegel, Vess, & Arndt, 2012), the results provide converging evidence with Newman et al.'s (2014) contention that people believe all true selves are fundamentally good. That is, when people perceive someone as making a change that is "for the better," they perceive that person as becoming more like their *true* self. The current results build upon those of Newman and colleagues by demonstrating the power of these lay beliefs about the true self beyond the domain of morality and beyond the judgment of hypothetical targets, thus further suggesting this powerful lay belief has meaningful implications in people's lives.

WHY SELF-DISCOVERY METAPHORS MATTER

The current findings speak to how the process of identity development is perceived and the ways in which people make sense of their own (and others') life stories. One purpose of a life story is to create a narrative that provides one's life with a sense of coherence and purpose (e.g., McAdams, 1995; McAdams, Diamond, de St. Aubin, & Mansfield, 1997). Self-discovery metaphors may serve an important role in promoting a sense of coherence in a life story by promoting perceptions of consistency even in the face of self-concept change. That is, when people feel that they have discovered a "new aspect" of themselves, they can reflect back on the past to search for supportive evidence that this was indeed who they have always been and more fully integrate this evidence into their life story. In this way, self-

discovery metaphors may be an important vehicle that people use to find evidence that, at their core, they are the same person over time, despite the changes they see in themselves. This might help them establish a coherent life story and reap the psychological and physical health benefits that are associated with life story coherence (Baerger & McAdams, 1999; Pennebaker, 1997; White & Epston, 1990). In this way, discovery themes may constitute a part of the cultural "expectations of what makes a healthy narrative and a healthy self" (McLean, Pasupathi, & Pals, 2007, p. 262). Consistent with this possibility, previous work on self-discovery metaphors has found that endorsing the idea that the true self was discovered positively predicts meaning in life judgments (Schlegel et al., 2012). Our exploratory correlation analyses form Study 1 similarly revealed that discovery beliefs (specific to the change participants wrote about) positively correlated with meaning in life, self-esteem, and satisfaction with life. Further, those correlations did not seem to be explained simply by the positivity of "discovered" changes, as evaluation scores were not significantly correlated with any of these three well-being outcomes. Further, these relationships were not moderated by target (i.e., self vs. other), suggesting that there is something about self-discovery metaphors, even when applied to close others, that relates to well-being. Though not tested directly, we suspect that this is because discovery metaphors help people derive meaning from the changes. Research suggests that even positive personality changes (e.g., decreasing neuroticism, increasing conscientiousness) are associated with poorer subjective well-being and health (Eizenman, Nesselroade, Featherman, & Rowe, 1997; Human, Biesanz, Miller, Chen, Lachman, & Seeman, 2013; Mroczek & Spiro, 2007). However, when self-discovery metaphors are applied to the self, this should promote life story coherence (as discussed in the previous paragraph; Bearger & McAdams, 1999) and potentially "diffuse" the threat aroused by changes in the self. Similarly, self-discovery metaphors applied to others may "diffuse" the threat that changes in close others pose to our desires for others to be consistent (e.g., Landau et al., 2004) and thus protect our desired belief that one's understanding of the world is correct (Festinger, 1957; Fromm, 1941; Hardin & Higgins, 1996). Of course, these analyses are preliminary and should certainly be interpreted with some caution. However, these results provide at least some indication that the use of self-discovery metaphors is either a marker of (or can help foster) positive psychological functioning. Future research should directly examine how the presence of discovery sequences in life stories may relate to the perceived continuity of one's life story and how this, in turn, may influence other outcomes such as well-being, self-concept clarity, and meaning in life.

FUTURE DIRECTIONS

Future research should examine the potential bi-directionality of the effects observed in these studies. Perhaps prompting someone to think about a change as an example of self-discovery would positively impact the person's evaluation of that change. This could be useful for people struggling to accept change in the self or a close other.

It would also be interesting to examine whether these effects are unique to self-discovery metaphors or would be found for other metaphors. Are there other metaphors that may be applied to a change and equally effective in helping people make sense of it? Waterman (1984) proposed that self-creation is the alternative metaphor to self-discovery. Might self-creation metaphors be equally useful in making sense of changes? We suspect not. As Waterman notes, self-creation metaphors suggest there is no true self and subscribing to such a view can actually result in "existential dread." Consistent with Waterman's contentions, previous research has found that the true self is far more likely to be considered discovered than created, and that, unlike self-discovery metaphors, the endorsement of self-creation metaphors fails to consistently relate to meaning in life (Schlegel, Vess, & Arndt, 2012). However, there may be other meaning making metaphors that can be identified through further research.

A related issue is how self-discovery metaphors may or may not be applied in different situations. For example there are certain times in life when personality change is less likely to be threatening because changes are normative and even expected (e.g., after getting a job or having children). What metaphors might be applied in these situations? Even if they aren't threatening, we suspect that self-discovery metaphors may still be applied. Other research has shown that behaving in normative ways feels authentic (e.g., Fleeson & Wilt, 2010; Sherman, Nave, & Funder, 2012). As such, we expect normative changes might be even more likely to be seen as movements toward the true self and that people may think of such life transitions as moments in their life when they "found themselves." Similarly, we have found that when people think about how they have changed over the course of their lives, they tend to think they have become increasingly authentic over time and that they will continue to become more authentic in the future (Seto & Schlegel, 2015), suggesting that people may see movements toward the true self as a normative part of maturation.

LIMITATIONS

The current findings are limited by the experimental methods employed and do not include a strong test of the causal effect of change valence on self-discovery beliefs. That is, participants were given instructions to self-select examples of changes and were not assigned to directly experience a manipulated feeling of change. The strictest test of the key causal pathway would require randomly assigning participants to experience or observe a positive or negative personality change and measuring the difference in self-discovery beliefs that follow. While our methods do rule out several alternative explanations, they cannot directly speak to the strictest interpretation of causality. An additional limitation may be the relative homogeneity of the samples in terms of age and culture. Previous studies with adult samples have revealed evidence suggestive of a shared belief that true selves are fundamentally good (Newman et al., 2014), but future studies should consider the potential role of age and culture in the present effects. Indeed, research has demonstrated that dialectical cultures are more accepting of self-concept inconsistencies than non-dialectical cultures (Spencer-Rodgers, Boucher, Mori, Wang, & Peng, 2009), suggesting that culture could have an interesting impact on the perception of change.

CONCLUSIONS

A growing body of research has demonstrated that people change over time (e.g., Hopwood et al., 2011; Roberts et al., 2006; Robins et al., 2005) and that people believe they have changed over the course of their lives (Heckhausen, Dixon, & Baltes, 1989; Robins et al., 2005; Quoidbach, Gilbert, & Wilson, 2013). Our findings are, to our knowledge, the first to examine how people evaluate these changes within the self and close others in terms of self-discovery metaphors. The findings build on previous research (Schlegel et al., 2012) that suggests self-discovery beliefs play an important role in the way we think about the self and others as well as research on people's beliefs that the true selves are fundamentally good (Newman et al., 2014). Our hope is that this work will provide a fertile foundation for future research on the nature of identity development, the construction of life stories, and person perception.

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