Construing Action Abstractly and Perceiving Consonance among Goal Pursuits: Implications for

Activity Substitutability and the Accessibility of Activity-Goal Links

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Abstract

Findings from five experiments show that high-level action construals, due to either increases in temporal distance or to self-regulatory mindsets, facilitate consonance among subjective evaluations of separable goal pursuits. In Experiments 1 and 2, evaluations of progress toward separable goals were more strongly related among participants in abstract-mindset and future-focus conditions than in concrete-mindset and present-focus conditions. Results of Experiments 3 and 4 were consistent with the proposal that modulating the accessibility of relations between one's goals and one's broader aims is the mechanism by which level of action construal impacts perceived goal correspondence. Finally, results of Experiment 5 show that viewing an activity as linked to one's goals increases the activity's perceived substitutability. Implications for action representation and self-concept structure are discussed.

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Being successful in one's academic pursuits, realizing satisfaction in one's close

relationships, and getting along well with others exemplify several of the many goals individuals

commonly pursue and monitor progress toward on daily bases (e.g., Palys & Little, 1983). The

relations one perceives among such goals can have powerful impacts on motivation and affect.

Perceiving conflicts between goals, for instance, can undermine well-being (Emmons & King,

1988; Segerstrom, 2001). Because people typically pursue multiple goals simultaneously, it is

important to understand determinants of perceiving correspondence among them. The present

work examined whether one such determinant is the level of abstraction at which one construes

action.

A rich tradition of psychological theorizing and research has considered the determinants

and consequences of subjective consistency in trait-level behaviors across situations (e.g. Block,

1960; Donahue, Robins, Roberts, & John, 1993; James, 1890/1952; Sheldon, Ryan, Rawsthorne,

& Ilardi, 1997; Rafaeli-Mor & Steinberg, 2002). That work has shown that people who view

themselves as behaving consistently across different contexts tend to have higher levels of self-

esteem and well-being and lower levels of depression, anxiety, and neuroticism (Donahue et al.,

1993). People who view themselves in a more fragmented manner tend to have decreased levels

of well-being (Rafaeli-Mor & Steinberg, 2002), particularly to the extent that they perceive

themselves to hold limited control over their different self-aspects (e.g. social roles,

relationships, or actions; McConnell, et al., 2005). People also experience higher levels of well-

being when they behave concordantly with their values (Sheldon et al., 1997). Moreover,

whereas segregating positively and negatively valenced self-relevant information into separate self-aspects (i.e., evaluative compartmentalization) relates positively to self-esteem when negative self-relevant information can be deemed relatively unimportant (Showers, 1992), evaluative integration of positive and negative self-relevant information appears to facilitate balanced interpretations of self-pertinent experiences (Ziegler-Hill & Showers, 2007). In summary, at the levels of traits, goals, evaluative integration, and subjective experiences of authenticity, perceiving correspondence among one's actions and experiences appears to afford substantial benefits to well being.

Given these apparent benefits, what prevents people from generally perceiving correspondence among their actions and experiences? Holding a complex self-view can prevent negative self-relevant information from "spilling over" from one aspect of the self to other aspects of the self and thus improving one's ability to cope with this information (e.g. Linville, 1985; Renaud & McConnell, 2002). Other research has yielded similar findings showing that construing negative self-relevant information as unimportant (Pelham & Swann, 1989) and narrow (Showers, 1992) aspects of oneself can promote adaptive coping with negative life events. For these reasons, people may be motivated to construe their experiences and actions as relatively independent of one another when confronting negative life events (Kunda, 1990). Additionally, individuals' lay theories of personality help determine the extent to which they draw links between the various aspects of themselves (Dweck, 1999; Shoda & Mischel, 1993).

Apart from motivations and general lay beliefs, an independent, representational impact on perceiving correspondence among one's goals may ensue from one's level of action construal. As shown in research on action identification theory, any action can be construed at varying levels of abstraction, ranging from low levels specifying how something is done (its process) to

high levels specifying why something is done (its purpose; Vallacher & Wegner, 1987). When construing action abstractly, seemingly disparate actions may appear similar to one another by virtue of their relations to shared higher-level goals. Theoretical accounts of intrinsic motivation indeed suggest that viewing actions as relating to a common, abstract goal may increase the actions' perceived substitutability with one another (Shah & Kruglanski, 2000). Further suggesting a relation between level of action construal and perceived correspondence among diverse goals, individuals who chronically construe in high-level terms appear particularly likely to view themselves as sharing goals with dissimilar others (Levy, Freitas, & Salovey, 2002). Building on those findings, we propose that individuals who adopt a high-level (relative to a low-level) action construal will view increased correspondence among their goal-directed efforts.

To explicate the mechanism we propose to underlie the effect of level of action construal on perceptions of goal concordance, we turn to theoretical analyses of goal hierarchies. Among the most abstract purposes people pursue is being the kind of person each of us aspires to be. Cybernetic models thus place desired self-concepts at the very top of goal hierarchies, with more concrete sub-goals serving as means of realizing those abstract self-standards (see Carver & Scheier, 1999, Figure 1.5; see also Powers', 1973, notion of *system concepts*). Accordingly, construing an action (e.g., "joining the army") in terms of its high-level purposes should lead one to consider not only its essential meaning (e.g., "promoting the nation's defense"), but also its relations to one's own important self-guides (e.g., "being strong"; "being brave"; or "being responsible"). When focused on immediate, low-level details of action, in contrast, behaviors and decisions should be more likely to be viewed as compartmentalized within the domain or task at hand and therefore less pertinent to one's self-views (see also Baumeister, 1990; Emmons, 1992). Supporting this reasoning, findings from several experiments showed that construing

action in high-level terms increases the extent to which one relates one's decisions to one's self-standards (Freitas, Langsam, Clark, & Moeller, 2008). Desiring for oneself a political candidate's personal qualities, for example, predicted evaluating favorably and voting for that candidate to a greater extent among participants focused on the distal than the proximal future. Moreover, individuals chronically construing action in high-level terms responded more favorably to advertisements appealing to their desired self-concept than to product quality. Independent of an activity's essential meaning, then, its relation to one's self-standards appears particularly influential for decisions construed at high levels of abstraction. Accordingly, we propose that construing action in an abstract manner will facilitate viewing correspondence among one's goal pursuits by making salient the links between the various goals an individual pursues and the individual's broader aims.

Integrating the above-reviewed strands of research, we propose that construing action abstractly generally will increase perceived correspondence across one's evaluations of different goals, given those goals' shared associations with one's broader self-conceptions. Because each of an individual's ongoing goal pursuits can be related to his or her broader self-defining aims, those pursuits should be perceived as increasingly consonant with one another to the extent that one perceives action in high-level terms. Specifically, we posit that adopting a higher level of action construal will make the relation between one's goals and broader aims salient, thereby highlighting the substitutability of these goals in achieving one's broader aims. If our theorizing is correct, then adopting a high-level (relative to a low-level) action construal should lead to perceiving increased correspondence among evaluations of goal progress, because adopting a higher level of construal should facilitate viewing progress on any goal as progress toward achieving one's broader aims.

The present research also aims to elucidate these predicted results' underlying processes. As stated above, we suggest that modulating the accessibility of relations between one's goals and one's broader aims is the mechanism by which level of action construal impacts perceived correspondence between evaluations of goal progress. If so, then independently manipulating those relations' accessibility should moderate the impact of action-construal levels on perceived correspondence among ratings of goal progress. To shed light on this possibility, we drew on influential demonstrations of the dependence of social judgment on the accessibility of cognitive material, manipulated simply via the order of assessment of subjective evaluations (Schwarz, 1999). When respondents evaluate phenomena with a clear part-whole relationship, such as romantic satisfaction and overall life satisfaction, higher correspondence among evaluations emerges when the part is assessed before the whole (Schwarz, Strack, & Mai, 1991). Increasing the accessibility of information pertaining to judgments of relatively specific phenomena (e.g., relationship satisfaction) thus appears to increase that information's likelihood of usage as criteria for judgments of relatively broader phenomena (e.g., overall life satisfaction). Accordingly, if our theorizing is correct, the order in which participants evaluate progress of goals with a part/whole relationship should moderate the impact of level action construal on those evaluations' consonance with one another. High-level construals should promote consonance among evaluations when the whole is evaluated before the part, given our theorizing that high-level construals promote perceiving relations between any of one's goals and one's broader aims. When the part is evaluated before the whole, in contrast, the impact of level action construal on evaluations' consonance with one another should be attenuated, given that the accessibility manipulation itself would broaden the criteria applied to the latter judgment.

Finally, to examine further our proposed structural account of the effect of level of action construal on perceiving consonance among goal pursuits, we also investigated perceptions of goal substitutability. Given that perceiving consonance among goal pursuits entails perceiving substitutability among them (Kruglanski et al., 2002), and given our claim that adopting a high-level (relative to a low-level) action construal facilitates perceiving consonance among one's goal pursuits, we tested whether construing an action in terms of its high-level purposes would increase its perceived substitutability with other actions.

Five experiments tested these predictions. As reviewed above, people construe distal-future events in higher-level terms than proximal-future events (Trope & Liberman, 2003). Accumulating evidence also suggests that people construe action differentially abstractly through adopting general self-regulatory mindsets emphasizing either *why* or *how* actions generally are performed (Freitas, Gollwitzer, & Trope, 2004). Experiments 1 and 2 examined the impact of self-regulatory mindsets and temporal distance on consonance in perceived progress toward separable goals. Through manipulating the order in which participants evaluated self-regulatory phenomena with a part/whole relationship, Experiments 3 and 4 next examined the accessibility-based mechanism we propose to account for the effects of self-regulatory mindsets and temporal distance on consonance among subjective evaluations of separable goal pursuits. Experiment 5 examined whether construing an action in terms of its high-level purposes would increase its perceived substitutability with other actions.

<div align="center">Experiment 1</div>

Experiment 1 examined subjective evaluations of goal progress. If construal levels modulate the accessibility of the relation between one's goals and one's broader aims, then evaluations of progress on two goals should be related most highly among participants

construing action abstractly, who most readily should perceive progress toward achieving these goals as progress toward achieving their broader aims. Testing this possibility, Experiment 1 examined goals related to interpersonal relationships, an important life domain. Achieving satisfaction in romantic relationships and getting along well with other people (i.e., social competence) are common goals for most people (Emmons & Diener, 1985; Hammersla & Frease-McMahan, 1990; Baumeister & Leary, 1995). These goals are related in that both pertain to interpersonal relationships, yet romantic relationship satisfaction and social competence are not the same thing. The question addressed here is whether they are seen as differentially related as a function of level of action construal. Given the above theorizing, we hypothesized that participants' ratings of their anticipated future relationship satisfaction and social competence would be more strongly related than would participants' ratings of their current relationship satisfaction and social competence.

Method

Participants

Two hundred and five SUNY Stony Brook undergraduates (114 women and 91 men), aged 8 to 45 ($M = 19.47$), participated as part of a mass testing session.

Procedure

Relationship satisfaction. On a scale of 1 (unhappy) to 5 (extremely happy), participants indicated their level of current or anticipated relationship satisfaction. For participants in the present condition, this question was framed as "How happy are you, right now, with your current situation concerning romantic relationships? That is, do you currently feel that you are satisfied (happy) or unsatisfied (unhappy) with respects to having enjoyable experiences with a person (or persons) toward whom you are romantically attracted?" For participants in the future condition,

this question was framed as "How happy do you expect to be, one year from now, with your situation concerning romantic relationships? That is, do you expect that one year from now you will be satisfied (happy) or unsatisfied (unhappy) with respects to having enjoyable experiences with a person (or persons) toward whom you are romantically attracted?"

Social competence. On a scale of 1 ("I don't always get along so well with other people") to 5 ("I always get along extremely well with other people"), participants also indicated their current or anticipated level of social competence. For participants in the present condition, this question was framed as "In terms of how you feel today, right now, how well do you get along with other people?" For participants in the future condition, this question was framed as "In terms of how you expect to feel in the future, one year from now, how well do you expect to get along with other people?" The questions pertaining to romantic satisfaction and social competence were presented in varying order and separated by a filler question which asked participants to indicate what time of day they wake up presently (present condition) or what time they expect to wake up one year in the future (future condition).

Results and Discussion

Participants' ratings of social competence ($M = 3.71$, $SD = 0.87$) were regressed onto their ratings of romantic satisfaction ($M = 3.26$, $SD = 1.18$), their assignment to the present (coded "0") or future conditions (coded "1"), and the product of the two predictor variables. The continuous predictor variable (i.e., romantic satisfaction) was mean-centered prior to analysis. The multiple regression analysis yielded the predicted Temporal Distance x Romantic Satisfaction interaction, $B = .31$, $SE = 0.11$, $t(201) = 2.95$, $p < .01$ (see Figure 1). To clarify the nature of this interaction, we conducted simple slopes analyses (Aiken & West, 1991; Preacher, Curran, & Bower, 2006). Participants' ratings of social competence related significantly to their

ratings of relationship satisfaction in the future-focus condition, $B = .39$, $SE = 0.08$, $t(201) = 4.72$, $p < .001$, but not in the present-focus condition $B = .08$, $SE = 0.07$, $t(201) = 1.21$, $p = .23$. Order of assessment of did not moderate these effects.

Experiment 2

In Study 2, we replicated the design of Study 1 while manipulating level of action construal by making accessible general self-regulatory mindsets rather than by manipulating temporal focus. Consistent with earlier mindset research (Gollwitzer, 1990), thinking about the abstract aims (versus concrete procedures) related to one activity or situation should increase the accessibility of the general cognitive operation of considering activities' purpose (versus process), thus coloring one's construal of newly encountered information (Freitas et al., 2004). Accumulating evidence suggests that these self-regulatory mindset manipulations indeed impact the level of construal of newly encountered information pertaining to consumer decisions (Cheema & Patrick, 2008; Hamilton & Thompson, 2007), self-control (Fujita, Trope, Liberman, & Levin-Sagi, 2006), interpersonal status and power (Smith, Wigboldus, & Dijksterhuis, 2008), activity engagement (Liberman, Trope, McCrea, & Sherman, 2007), and value-behavior consistency (Torelli & Kaikati, 2009). We replicated the design of Experiment 1 while using the self-regulatory mindset manipulation described above, in order to examine whether Experiment 1's results indeed reflect differences in how action is represented rather than other differences in motivation or in beliefs on the part of individuals focused on the future versus present.

Method

Participants

One hundred and forty eight undergraduates (113 women, 34 men, and 1 unknown), aged 18 to 48) ($M = 20.55$), participated in exchange for course credit.

Mindset Induction

This manipulation entails describing a single activity in either increasingly abstract or concrete terms (see Freitas et al., 2004, for a full description). Participants in the abstract condition filled out a diagram to indicate *why* improving and maintaining their health could help them meet life goals, whereas participants in the concrete condition filled out a similar diagram to indicate *how* they could improve and maintain their health (see Freitas et al., 2004, Figure 1).

Assessing Relationship Satisfaction and Social Competence

Following the mindset induction, participants were asked to indicate their level of relationship satisfaction on a scale of 1 (unhappy) to 5 (extremely happy). Additionally, participants were asked to indicate how well they get along with other people on a scale of 1 ("I don't always get along so well with other people") to 5 ("I always get along extremely well with other people"). The questions pertaining to romantic satisfaction and how well one gets along with others were presented in varying order and separated by a filler question which asked participants to indicate what time of day they usually wake up.

<div align="center">Results and Discussion</div>

Participants' ratings of social competence ($M = 3.68$, $SD = 0.73$) were regressed onto their ratings of romantic satisfaction ($M = 3.29$, $SD=1.20$), their assignment to the abstract (coded "1") or concrete (coded "0") mindset conditions, and the product of the two predictor variables. The continuous predictor variable (i.e. romantic satisfaction) was centered prior to analysis. The multiple regression analysis yielded the predicted Mindset x Romantic Satisfaction interaction, $B = .39$, $SE = 0.10$, $t(144) = 4.13$, $p < .001$(see Figure 2). To clarify the nature of this interaction, we conducted simple slopes analyses (Aiken & West, 1991; Preacher, et al., 2006). Participants' ratings of social competence related significantly to their ratings of relationship

satisfaction in the abstract mindset condition, $B = .28$, $SE = 0.06$, $t(144) = 4.50$, $p < .001$, but not in the concrete mindset condition, $B = -.11$, $SE = 0.07$, $t(144) = -1.53$, $p = .13$. Order of assessment did not moderate these effects. These results replicate the findings of Experiment 1 while manipulating level of action construal by making accessible general self-regulatory mindsets rather than by manipulating temporal focus.

Experiment 3

Results of Experiments 1 and 2 show that levels of action construal impact consonance among subjective evaluations of separable goal pursuits. As yet unexplored, however, is the possible mechanism explaining these effects. We posit that construing action abstractly facilitates perceiving correspondence among one's goals by increasing the accessibility of relations between one's goals and one's broader aims. If so, then independently manipulating those relations' accessibility should reduce the impact of action-construal levels on perceived goal correspondence. To examine this possibility, we drew on evidence that when respondents evaluate phenomena with a part-whole relationship, higher correspondence among evaluations emerges when the part is assessed before the whole, as a result of changing the accessibility of information to be used as judgment criteria (Schwarz et al., 1991). Accordingly, our final two experiments manipulated the order in which participants evaluated self-regulatory phenomena with a part/whole relationship. High-level construals should promote consonance among evaluations when the whole is evaluated before the part, given our theorizing that high-level construals promote perceiving relations between any of one's goals and one's broader aims. When the part is evaluated before the whole, in contrast, the impact of level action construal on these evaluations' consonance with one another should be attenuated, given that the accessibility manipulation itself would broaden the criteria applied to the latter social judgment. In randomly

varying orders, then, participants in the present experiment estimated their present or future

academic achievement and overall life satisfaction. We predicted that participants evaluating

overall life satisfaction before academic achievement (whole before part) would view increased

consonance among these evaluations when considering the future as compared to the present,

replicating the pattern from Experiments 1 and 2. In contrast, we predicted that participants

evaluating academic achievement before overall life satisfaction (part before whole) would

demonstrate similar levels of consonance among these evaluations in the future and present

conditions.

<div align="center">Method</div>

Participants

One hundred and thirty seven SUNY Stony Brook undergraduates (78 women and 59

men), 17 to 39 ($M = 19.62$), participated in exchange for course credit.

Procedures

Academic achievement. On a scale of 1 ("Not too well") to 5 ("Extremely, extremely

well"), participants reported their academic achievement. For participants in the present

condition, this question was framed as, "When thinking about today, right now, how well are you

doing academically?" For participants in the future condition, this question was framed as,

"When thinking about the future, how well do you think you will be doing academically, one

year from now?"

Overall life satisfaction. On a scale of 1 ("Not too well") to 5 ("Extremely, extremely

well") participants also indicated their overall life satisfaction. For participants in the present

condition, this question was framed as "When thinking about today, right now, how satisfied are

you with how your life is turning out?" For participants in the future condition, this question was

framed as, "When thinking about the future, how satisfied do you think you will be with how your life is turning out, one year from now?"

The questions pertaining to academic performance and life satisfaction were presented in varying order randomized across participants.

<div align="center">Results and Discussion</div>

Participants' ratings of life satisfaction ($M = 2.51$, $SD = 0.92$) were regressed onto their ratings of academic achievement ($M = 2.53$, $SD = 0.90$), the order in which these ratings were provided (coded "0" if life satisfaction was assessed before academic achievement or coded "1" if academic achievement was assessed before life satisfaction), participants' assignment to the present (coded "0") or future conditions (coded "1"), and all possible products among the predictor variables. The continuous predictor variable (i.e. academic achievement) was centered prior to analysis. The multiple regression analysis yielded the predicted 3-way interaction between academic achievement, temporal distance, and order, $B = -0.55$, $SE = 0.27$, $t(129) = -2.03$, $p < .05$ (see Figure 3).

Clarifying the nature of this interaction, we conducted simple slopes analyses (Aiken & West, 1991; Preacher et al., 2006) followed by slope difference tests (Dawson & Richter, 2006) to examine differences between pairs of simple slopes. Among participants who first evaluated overall life satisfaction (i.e., in the "whole before the part" conditions), the relationship between ratings of life satisfaction and academic achievement was stronger when they considered the future $B = .87$, $SE = 0.13$, $t(129) = 6.46$, $p < .001$, than when they considered the present time $B = .28$, $SE = 0.14$, $t(129) = 2.03$, $p = .05$, replicating the pattern from Experiments 1 and 2. Most importantly, these slopes were significantly different from each other $t(129) = 3.01$, $p < .004$, showing that the relationship between ratings of overall life satisfaction and academic

achievement was significantly stronger for participants considering the future as compared to participants considering the present. In contrast, among participants who first evaluated academic achievement (i.e., in the "part before the whole" conditions), the relationship between ratings of life satisfaction and academic achievement were associated consistently in the future condition, $B = .76$, $SE = 0.14$, $t(129) = 5.55$, $p < .001$, and the present condition, $B = .73$, $SE = 0.14$, $t(129) = 5.40$, $p < .001$; these slopes did not differ significantly from each other $t(129) = 0.15$, $p = .89$.

Alternatively, we may use tests of slope differences to examine whether the relationship between ratings of academic achievement and overall life satisfaction for participants in the future-focus or present-focus conditions differed across the two different orders. Supporting our hypotheses, an additional test of slope difference showed that the relationship between ratings of academic achievement and overall life satisfaction for participants in the future-focus condition did not differ significantly between the "part before whole" ($B = .76$, $SE = 0.14$) and the "whole before part" conditions ($B = .87$, $SE = 0.13$); $t(129) = -0.55$, $p = .59$. Also supporting our hypotheses, a test of slope difference showed that the relationship between ratings of academic achievement and overall life satisfaction for participants in the present-focus condition was significantly stronger in the "part before whole" condition ($B = .73$, $SE = 0.14$) than the "whole before part" condition ($B = .28$, $SE = 0.14$); $t(129) = 2.31$, $p < .03$.

These results suggest that construing action abstractly facilitates consonance among subjective evaluations of separable aspects of goal pursuit unless information pertaining to relatively specific self-regulatory phenomena is made accessible just before judgments of relatively broader self-regulatory phenomena need to be made.

Experiment 4

Experiment 4 replicated the design of Experiment 3, but while manipulating action-construal levels via the self-regulatory mindset induction described above and while assessing dating satisfaction rather than academic achievement as subset of overall life satisfaction.

Method

Participants

Two hundred and twenty eight SUNY Stony Brook undergraduates (168 women and 60 men), aged 18 to 46 (M = 20.84), participated in exchange for course credit.

Procedures

Participants first were assigned randomly to complete either an abstract or concrete action-construal mindset induction following the procedures described in Study 2.

Dating Satisfaction and Overall Life Satisfaction. Following the mindset induction, participants were asked to indicate their level of satisfaction with dating and their level of overall life satisfaction on a scale of 1 (Very Dissatisfied) to 11 (Very Satisfied). The questions pertaining to dating satisfaction and life satisfaction were presented in varying order randomized across participants.

Results and Discussion

Participants' ratings of life satisfaction (M = 7.61, SD = 1.90) were regressed onto their ratings of dating satisfaction (M = 7.10, SD = 2.91), the order in which these ratings were provided (coded "0" if life satisfaction was assessed before dating satisfaction or coded "1" if dating satisfaction was assessed before life satisfaction), participants' assignment to the concrete (coded "0") or abstract (coded "1") mindset conditions, and all possible products among the predictor variables. The continuous predictor variable (i.e. dating satisfaction) was centered prior to analysis. The multiple regression analysis yielded the predicted 3-way interaction between

dating satisfaction, mindset, and order, $B = -.45$, $SE = 0.16$, $t(220) = -2.81$, $p < .006$ (see Figure 4).

Clarifying the nature of this interaction, we conducted simple slopes analyses (Aiken & West, 1991; Preacher et al., 2006) followed by slope difference tests (Dawson & Richter, 2006) to examine differences between pairs of simple slopes. Among participants who first evaluated overall life satisfaction (i.e., in the "whole before the part" conditions), the relationship between ratings of life satisfaction and dating satisfaction was stronger in the abstract mindset condition, $B = .33$, $SE = 0.08$, $t(220) = 4.22$, $p < .001$, than in the concrete mindset condition, $B = .06$, $SE = 0.08$, $t(220) = 0.82$, $p = .42$, replicating the pattern from Experiments 1 and 2. Most importantly, these slopes were significantly different from each other $t(220) = 2.44$, $p < .02$, showing that the relationship between ratings of overall life satisfaction and dating satisfaction was significantly stronger for participants in the abstract mindset condition as compared to participants in the concrete mindset condition. In contrast, among participants who first evaluated dating satisfaction (i.e., in the "part before the whole" conditions), the relationship between ratings of life satisfaction and dating satisfaction were associated consistently in both the abstract mindset condition, $B = .25$, $SE = 0.08$, $t(220) = 3.06$, $p < .003$, and the concrete mindset condition, $B = .43$, $SE = 0.08$, $t(220) = 5.07$, $p < .001$; these slopes did not differ significantly from each other $t(220) = -1.57$, $p = .12$.

Alternatively, we may use tests of slope differences to examine whether the relationship between ratings of academic achievement and overall life satisfaction for participants in the abstract-mindset or concrete-mindset conditions differed across the two different orders. Supporting our hypotheses, an additional test of slope difference showed that the relationship between ratings of dating satisfaction and overall life satisfaction for participants in the abstract

mindset condition did not differ significantly between the "part before whole" ($B = .25$, $SE = 0.08$) and the "whole before part" conditions ($B = .33$, $SE = 0.08$); $t(220) = -0.74$, $p = .46$. Also supporting our hypotheses, a test of slope difference showed that the relationship between ratings of dating satisfaction and overall life satisfaction for participants in the present-focus condition was significantly stronger in the "part before whole" condition ($B = .43$, $SE = 0.08$) than the "whole before part" condition ($B = .06$, $SE = 0.08$); $t(220) = 3.22$, $p < .003$.

These results conceptually replicate those of Experiment 3, while suggesting that both sets of results reflect differences in how action is represented rather than differences only in motivation or beliefs on the part of individuals focused on the future versus present.

Experiment 5

As observed in classic and contemporary analyses of goal-directed action, a hallmark of perceiving consonance among goal pursuits is evaluating them to be substitutable with one another. For example, given the goal of contacting a colleague, telephoning him or her is substitutable with dropping by his or her office (Lewin, Dembo, Festinger, & Sears, 1944). This *equifinality* (Kruglanski et al., 2002) is specific to goal-related representations and does not apply to non-goal-related representations, such as of concepts varying in similarity to one another (e.g., Förster, Liberman, & Friedman, 2007). Accordingly, given our claim that adopting a high-level (relative to a low-level) action construal facilitates perceiving consonance among one's goal pursuits, construing an action in terms of its high-level purposes should increase its perceived substitutability with other actions. Support for this prediction would support our structural account of the effect of level of action construal on perceived consonance among one's goal-directed efforts, while also addressing Förster and colleagues' (2007) call for studies of goal

activation to assess cognitive processes, such as those pertaining to perceiving substitutability, that are specific to goal-related mental representations.

Testing this prediction required manipulating action construal in a manner that would minimize the viability of alternative explanations for our predicted results. More specifically, people appear particularly likely to consider their values and personally important goals when thinking about the distal relative to the proximal future (Eyal, Sagristano, Trope, Liberman, & Chaiken, 2009) and as a result of adopting an abstract relative to a concrete self-regulatory mindset (Torelli & Kaikati, 2009). We sought to minimize the likelihood that participants construing an activity in high-level terms would evaluate it to be highly substitutable purely as a result of contrasting the activity's importance with that of their personally important goals, thereby trivializing the activity's importance and increasing its perceived substitutability (cf. Simon, Greenberg, & Brehm, 1995). Accordingly, in Experiment 5, all participants were asked to list personal goals, and we manipulated whether or not participants linked a focal activity (engaging in physical exercise) to those goals. In this way, participants' likelihood of contrasting the activity's importance with that of their personal goals was held constant across the linked and unlinked conditions, allowing an informative test of our structural account of the effect of level of action construal on perceiving consonance among goal pursuits.

Finally, to increase these results' generalizability while also assessing these methods' sensitivity to potential contrast effects as described above, we also manipulated whether participants listed one or three personal goals. If participants determine a focal activity's substitutability partly as a result of contrasting it with other accessible goals (and thereby trivializing the importance of that activity), then higher activity-substitutability ratings should be observed among participants who list three rather than one goal(s). Independent of any such

effect, the present approach predicts enhanced substitutability ratings among participants construing an activity in terms of its high-level purposes. Accordingly, a strong test of our theorizing is that participants will evaluate an activity to be higher in substitutability when they have linked it to their goal(s) than when they have not, both among participants assigned to list one personal goal and among participants assigned to list three personal goals.

Method

Participants

Three hundred and twenty four SUNY Stony Brook undergraduates (152 women, 150 men, and 22 respondents who did not indicate their gender), aged 16 to 52 ($M = 19.51$), participated.

Procedures

During a mass-testing session, participants were asked to complete a goal-listing task followed by a two-item assessment of goal substitutability.

Listing Goals. For the goal-listing task, participants were assigned to either a goal-linked or a non-linked condition, and within each of these conditions, participants were asked to list either one or three of their personal goals. In the goal-linked condition, participants were asked to "Please think about how engaging in physical exercise could help you meet some goals you may have. That is, please think for a few moments about how exercising could help you do things you want to do in life." Participants next were asked to list either one goal or three goals that they could meet by exercising. In the non-linked condition, participants were asked to "Please think about some goals you want to meet. That is, please think about some goals you may have, or things that you want to do in life." Participants then were asked to list either one goal or three goals.

Substitutability. After listing their goal(s), participants indicated the extent to which they viewed engaging in physical exercise to be substitutable by other activities. To assess perceived substitutability, participants were asked to indicate the extent to which they "could achieve happiness in life without physically exercising," on a scale of 1 ("not at all") to 7 ("extremely"), and the extent to which they considered "physical exercise to be one of life's necessities," on a scale of 1 ("not at all") to 7 ("extremely"). Responses to these two questions were averaged (after reverse-scoring responses to the latter, "necessity," question) to create a measure of substitutability (Cronbach's α = .70).

Results and Discussion

Participants' substitutability scores were analyzed in a 2 (goal linkage: linked vs. unlinked) x 2 (number of goals listed: one vs. three) ANOVA. As predicted, there was a significant main effect of goal linkage, $F(1, 320) = 24.78$, $p < .0001$, reflecting higher ratings of substitutability in the linked than non-linked conditions (see Figure 5). Additionally, there was a significant main effect of number of goals listed, $F(1, 320) = 5.93$, $p < .02$, reflecting higher ratings of substitutability in the list-three-goals conditions than in the list-one-goal conditions (see Figure 5). The interaction between goal linkage and number of goals was not statistically significant, $F(1, 320) = 1.38$, $p = .24$. Further examining the main effect of goal linkage, follow-up t-tests restricted to participants who listed one goal showed that participants in the goal-linked condition indicated higher levels of activity substitutability ($M = 3.07$, $SD = 1.06$) than did participants in the non-linked condition ($M = 2.59$, $SD = 0.98$), $t(152) = 2.81$, $p < .006$. This pattern was identical for participants who listed three goals, showing that participants in the goal-linked condition indicated higher levels of goal substitutability ($M = 3.53$, $SD = 1.24$) than did participants in the non-linked condition ($M = 2.75$, $SD = 1.23$), $t(168) = 4.13$, $p < .0001$.

Construing an activity in terms of its links to one's personal goal(s), then, increased its perceived substitutability, whether the activity was linked to a single goal or to multiple goals.

These findings also address a methodological gap of Experiments 3 and 4. Those experiments demonstrated that the increased correspondence between evaluations of goal pursuits among participants construing action abstractly relative to concretely (as observed in Experiments 1 and 2) was attenuated when participants construing action concretely were made aware of links between goal pursuits with part-whole relationships. In that way, Experiments 3 and 4 sought to provide participants construing action concretely with the "active ingredient" (perceiving links between goal pursuits) we theorized to explain the effect of construal level on perceiving consonance among one's self-regulatory efforts. By focusing on changing the degree of correspondence between evaluations of goal pursuits among participants construing action concretely, however, those experiments did not examine underlying mechanism among participants construing action abstractly, leaving open the possibility that additional mechanisms may be involved. Experiment 5, in contrast, disambiguated two key components of high-level construals, accessibility of goals and perceiving hierarchical links between activities and those goals. In this way, Experiment 5 removed from the non-linked conditions the "active ingredient" (perceiving links between goal pursuits) we theorized to explain the effect of construal level on perceiving consonance among one's self-regulatory efforts. Adding to the results of Experiments 3 and 4, Experiment 5's findings thus are consistent with our structural account of the effect of construal level on perceiving consonance among one's self-regulatory pursuits, given that all participants in this experiment considered personal goals, but it was the hierarchical linkage of a focal activity to those goals that increased the activity's perceived substitutability with other activities.

General Discussion

In this investigation, individuals construing action abstractly (relative to concretely) appeared to perceive consonance among their goal pursuits. In Experiments 1 and 2, self-assessments of social competence and of relationship satisfaction related more strongly among participants in abstract-mindset and future-focus conditions than in concrete-mindset and present-focus conditions. Results of Experiments 3 and 4 replicated that result and supported our suggestion that construal level impacts perceived correspondence among goals by modulating the accessibility of links between self-regulatory pursuits. In Experiment 3, the relationship between ratings of academic satisfaction and of overall life satisfaction was stronger among participants considering the future than present, but this effect dissipated when information emphasizing this correspondence was made accessible just before summary judgments were made. In Experiment 4, the relationship between ratings of dating satisfaction and of overall life satisfaction was stronger among participants in the abstract than concrete mindset condition, but this effect again dissipated when information emphasizing this correspondence was made accessible just before summary judgments were made. Because perceiving consonance among goal pursuits entails perceiving substitutability among them (Kruglanski et al., 2002), Experiment 5 further tested whether construing an activity in terms of its high-level purposes would increase its perceived substitutability with other activities. Support for that prediction, taken together with results from Experiments 3 and 4, suggests that modulating the accessibility of relations between one's self-regulatory pursuits may be the mechanism by which level of action construal impacts perceived goal correspondence.

The current investigation suggests clear boundary conditions for its effects. Following our theorizing and results, construing action abstractly should increase perceived correspondence

only among goals that can be linked into a common hierarchical structure, such as earning a

decent salary and acquiring career skills, which both may relate to broader aims for achievement.

In contrast, the present perspective provides no basis to predict that construing action abstractly

will increase perceived correspondence among goals that a particular person is not working

toward and would not adopt, such being an airline pilot or improving one's poetry writing (for

individuals not inclined toward those endeavors). Tentative support for this assumption can be

drawn from interesting evidence that hypothetical behaviors opposite to one's current trait-based

self-view (such as imagining being late when one sees oneself as punctual) are construed as less

self-defining when anticipated in the distal than proximal future (Wakslak, Nussbaum, Liberman,

& Trope, 2008). However, perceived correspondence between behaviors and traits could reflect

not only the breadth of trait construals but also the salience of essential, primary characteristics

of any category (Trope & Liberman, 2000), with traits presumed to serve a central organizing

function in action categories (Nussbaum, Trope, & Liberman, 2003). Accordingly, future work

might profitably examine goals to *change* one's behavior, such as an admitted procrastinator's

striving for greater punctuality. For such an individual, the aim of being punctual, while

discrepant with the individual's perceived view of his or her actual self, would be consistent with

the individual's broader standards of self-improvement. Being more carefree, in contrast,

presumably would not be a goal of the individual striving for greater punctuality. From the

present standpoint, construing action abstractly should increase the correspondence such an

individual would perceive among his or her other goals and being more punctual but not being

more carefree. We look forward to future work examining such a possibility.

In a related vein, the present theorizing and results do not provide bases for viewing

correspondence among non-goal-related phenomena. Specifically, our theorizing and results

apply to goal-related representations that can be arranged hierarchically, such that lower-level items may be viewed as means to achieving items higher in the hierarchy. It is this hierarchy that we propose allows individuals to readily view links between ongoing goal pursuits and broader aims, thereby facilitating viewing progress on ongoing goal pursuits as progress towards achieving broader aims. For example, given the lack of a means-end hierarchical structure to general personality traits and the behaviors that instantiate them, the present investigation does not provide a basis for predicting that level of action construal should moderate perceived correspondence among traits and behaviors. However, future work examining perceived consonance among traits and behaviors would be interesting from the standpoint that high-level action construals promote the use of broader, more flexible categories (Förster, Friedman, & Liberman, 2004).

Future work also is needed to examine potential moderators of the presently reported results. For instance, it is possible that under certain conditions, construing action in high-level terms may decrease perceived correspondence between one's goals, given evidence from research on construal level theory (Liberman & Trope, 2008; Trope & Liberman, 2003) that high-level construals can constrain representations of actions, objects and events to those phenomena's essential features only. When considering a purchase in the distal (relative to the proximal) future, for instance, people weigh most heavily the product's features that are central rather than peripheral its intended purpose (Trope & Liberman, 2000). Construal level theory explains those findings by positing that considering an action or event in the distant future focuses one's attention on the primary, prototypical features of the action or event (Trope & Liberman, 2003). In an application of that theorizing to self-construal, research participants viewed hypothetical, experimenter-provided behaviors opposite to their current self-views to be

less self-defining when anticipated in the distal rather than proximal future (Wakslak, et al.,

2008). Accordingly, by focusing attention on activities' essential meanings, high-level action

construals may promote perceiving meaning-based conflict rather than consonance across

heterogeneous goal pursuits. Therefore, it is possible that the specific nature of goals that are

being evaluated that could moderate the impact of level of action construal on perceptions of

goal concordance.

Accordingly, future work might examine whether construing action abstractly would

increase or decrease the perceived correspondence among goals that seem to directly conflict

with one another (in terms of their essential meanings) upon initial consideration. For example,

an artist may view the goals of staying true to her art (i.e. doing what she wants to do) and

becoming rich and famous (i.e. doing what others want her to do) as directly conflicting with one

another in terms of their essential meanings. Based on the work reviewed above, adopting an

abstract mindset could promote perceiving meaning-based conflict between these goal pursuits

and therefore facilitate viewing decreased concordance between these goals. However, our

present theorizing suggests that if this artist were to construe action abstractly while considering

these two goals, then she may be able to more readily link these goals to her broader self-relevant

aims, thereby facilitating viewing correspondence between these seemingly conflicting goals.

For instance, if this artist were construing action abstractly while considering her goals of staying

true to her art and becoming rich and famous, then she might consider those goals' mutual

relations to a broader self-defining aim, such as profoundly impacting the fine arts, which may

lead to increased perceived correspondence between those goals. Given that the goals used in the

present work do not seem to directly conflict with one another in terms of their essential

meanings, future work is needed in order to test this interesting possibility.

Finally, the present findings suggest implications for research examining affective implications of the structure of the self-concept. As reviewed above, viewing correspondence among one's goals and actions leads to increased levels of well-being (e.g., Donahue et al., 1993; Emmons & King, 1988; Segerstrom 2001; Sheldon & Kasser, 1995). Therefore, by promoting viewing increased correspondence among one's self-regulatory endeavors, construing action abstractly may foster an increased sense of well-being. In recent personality research supporting this prediction, individual differences in level of action construal (see Vallacher & Wegner, 1989) were found to relate to experiencing positive affect, with that relationship partially explained by the degree to which participants viewed their different goal pursuits to be supportive of one another (Freitas, Clark, Kim, & Levy, 2009). However, experimental confirmation of that correlational finding remains needed, particularly given that positive affect can lead directly to increased levels of action construal (Beukeboom & Semin, 2005). Moreover, while it is true that perceiving correspondence among aspects of oneself can increase the subjective importance of failure (e.g. Linville, 1985; Renaud & McConnell, 2002), construing action abstractly also may foster the perception of alternate possible routes to goal attainment, through pursuing related goals, thereby potentially helping temper the impact of any one failure. Supporting this possibility, we have shown that viewing one's goals as linked increases the perceived substitutability among one's goals. Future research will be needed to examine conditions under which perceiving linkages among one's goals may potentiate affective responses to failure (by increasing perceived goal importance) or may attenuate affective responses to failure (by increasing perceived goal substitutability).

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Figure Captions

Figure 1. Predicted values in social competence for participants scoring one standard deviation above and below the mean in romantic satisfaction, among participants in the present-focus and future-focus conditions.

Figure 2. Predicted values in social competence for participants scoring one standard deviation above and below the mean in romantic satisfaction, among participants in the concrete mindset and abstract mindset conditions.

Figure 3. Predicted values in life satisfaction for participants scoring one standard deviation above and below the mean in academic satisfaction and in either the future-focus or present-focus conditions, among participants assessing academic satisfaction before life satisfaction (part first) and life satisfaction before academic satisfaction (whole first).

Figure 4. Predicted values in life satisfaction for participants scoring one standard deviation above and below the mean in dating satisfaction and in either the abstract or concrete mindset conditions, among participants assessing dating satisfaction before life satisfaction (part first) and life satisfaction before dating satisfaction (whole first).

Figure 5. Mean ratings of substitutability (with error bars indicating standard error of the mean) of the activity "engaging in physical exercise," among participants who construed this activity as linked to one or three of their personal goals and among participants who listed one or three of their personal goals but did not link the activity to those goals.
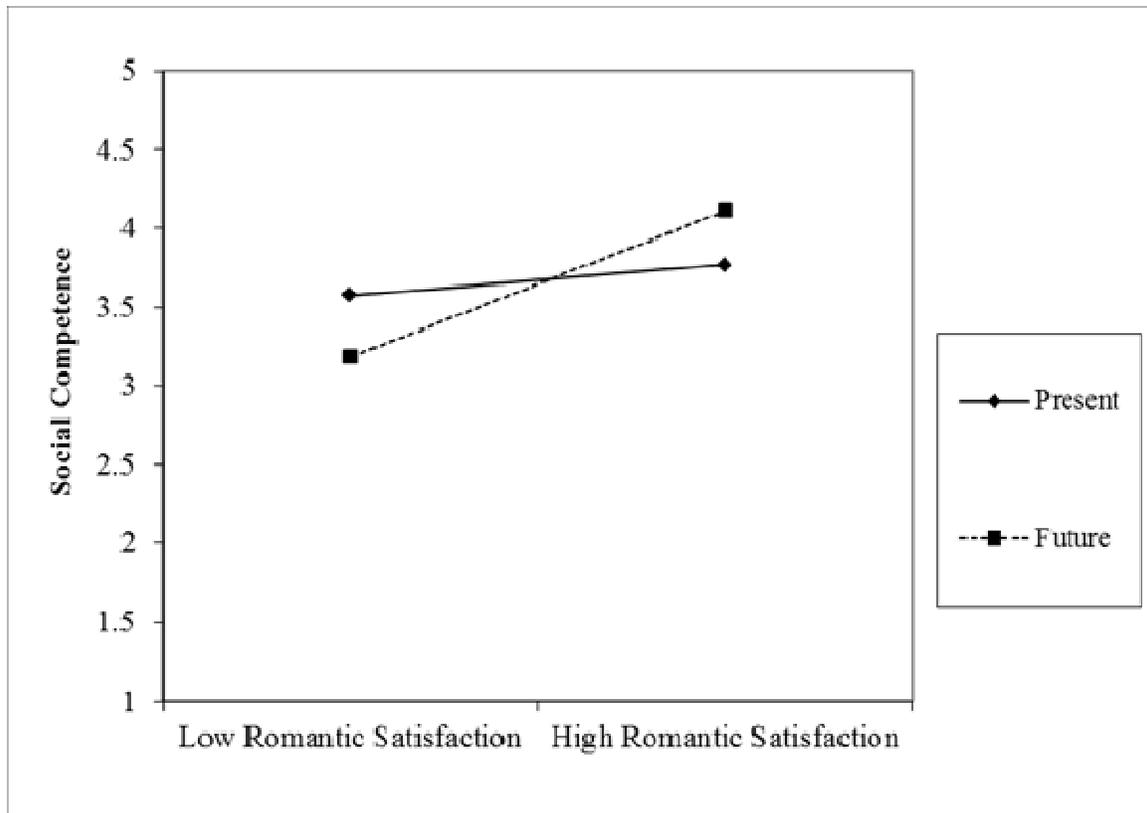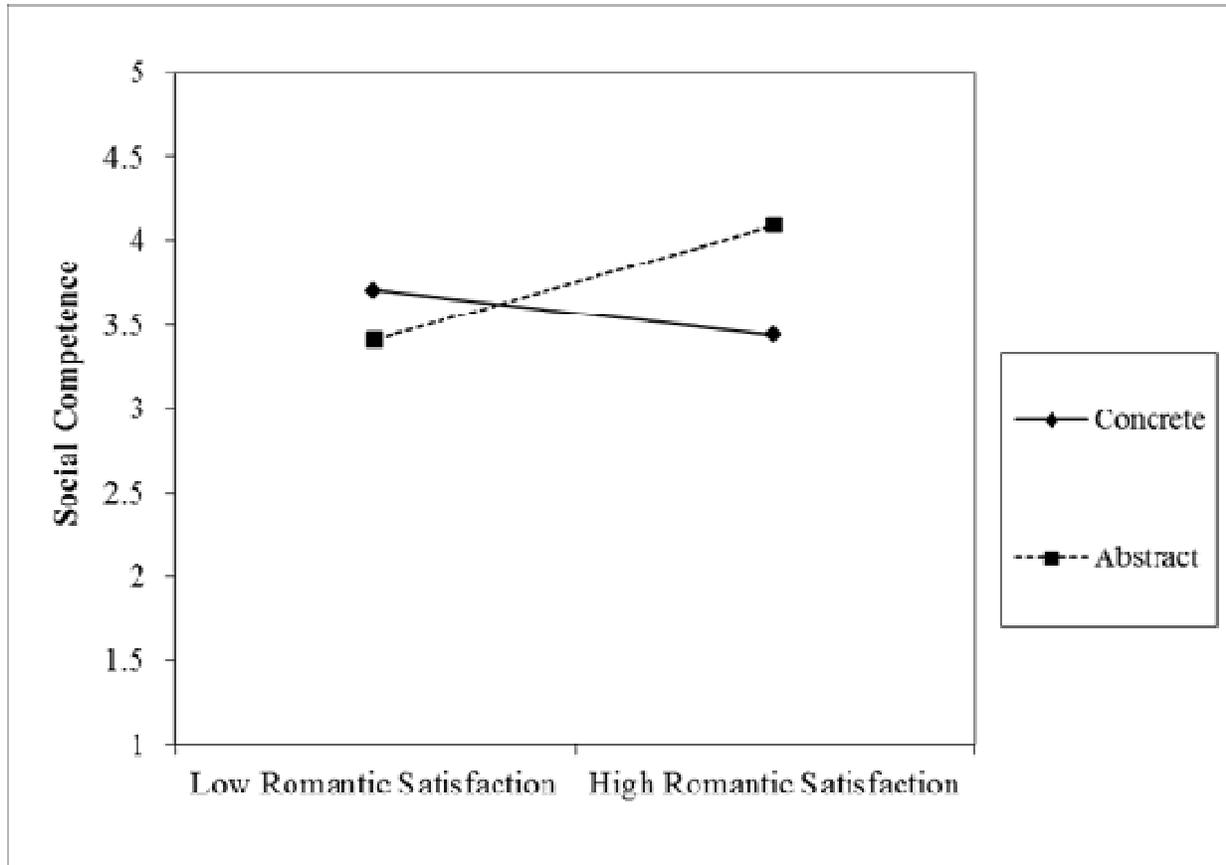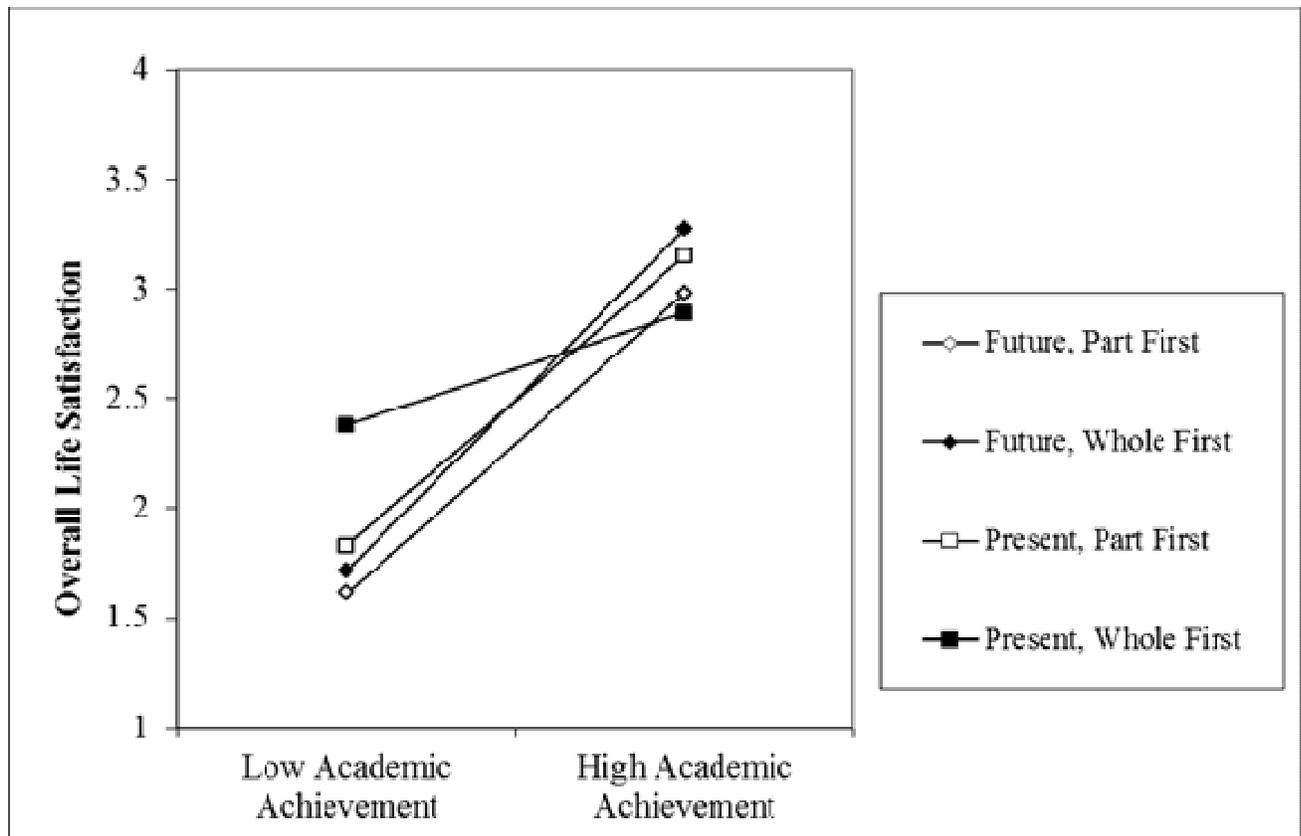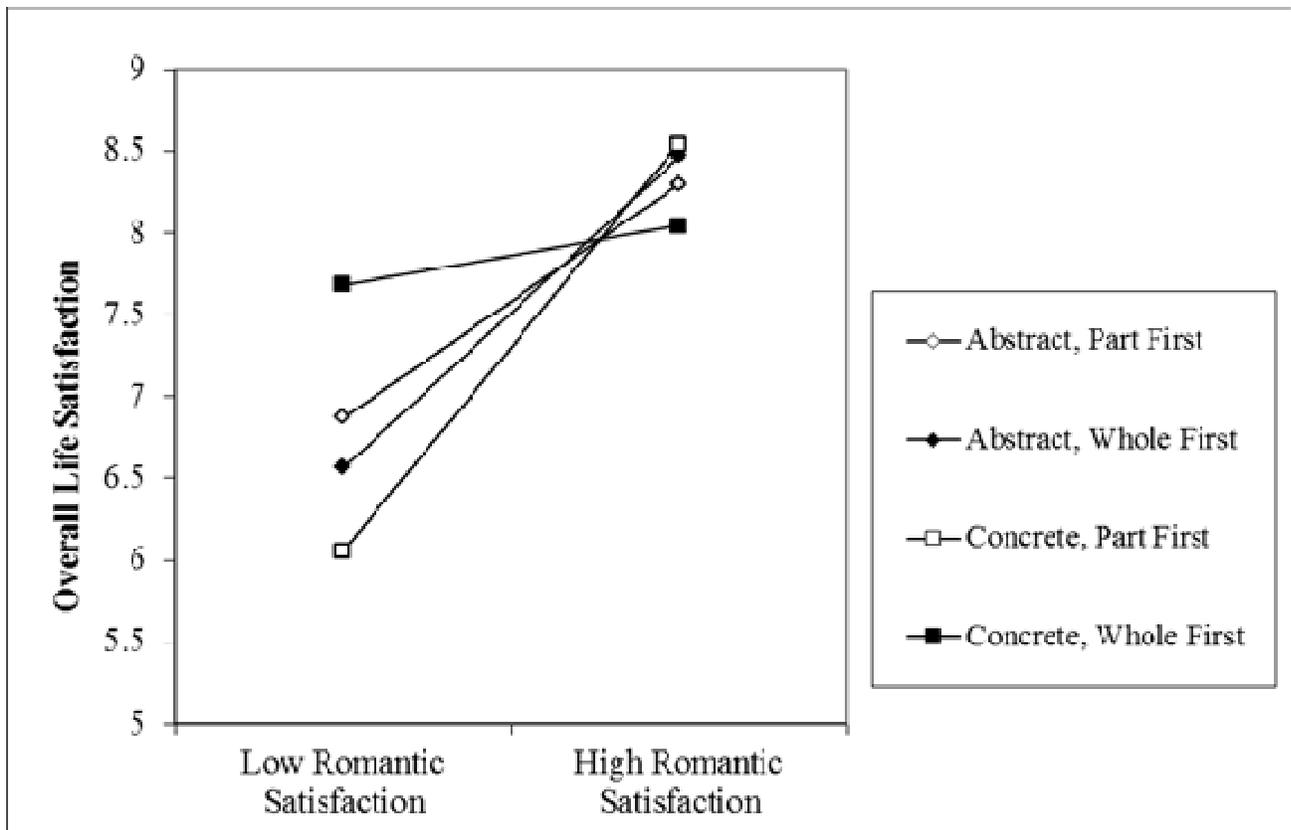
Figure 1.

Figure 2.

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