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Perceived and Capitalization Support Are Substantially Similar: Implications for Social Support Theory

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Perceived and Capitalization Support Are Substantially Similar: Implications for Social Support Theory

Ryan C. Shorey[1] and Brian Lakey[2]

Abstract

Social support is typically thought to protect people from bad events, whereas capitalization support augments people's reactions to good events. Because social support and capitalization support apply to different classes of events, most theory predicts that measures of perceived support and capitalization support should be empirically distinct. We tested a new theory that hypothesizes that the main effects between perceived support and mental health do not reflect stress and coping primarily, but instead reflect ordinary, yet affectively consequential conversations and shared activities, some of which include positive events. According to this view, perceived support and capitalization support should be substantially correlated, should have similar links to other constructs, and their links to favorable affect should overlap, yet not be completely redundant. In three samples, results were consistent with the new theory, when correlations reflected social influences. When correlations reflected trait influences, perceived and capitalization support showed greater overlap.

Keywords

perceived support, capitalization support, social support, affect, generalizability, SRM

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Perceived support reflects subjective judgments that support providers (e.g., family and friends) will provide quality assistance in response to bad events (Barrera, 1986). Perceived support has been consistently linked to emotional well-being (Barrera, 1986; Cohen & Wills, 1985), including lower rates of major depression (Lakey & Cronin, 2008) and fewer PTSD symptoms (Brewin, Andrews, & Valentine, 2000). Recently, capitalization support has been proposed as a distinct type of social support (Gable & Reis, 2010; Gable, Reis, Impett, & Asher, 2004). Capitalization support occurs when providers respond to recipients' positive events so as to magnify the events' positive effects for recipients. Like perceived support, capitalization support is linked to emotional and relational well-being (Gable & Reis, 2010). Although perceived and capitalization support would seem to be distinct, there are reasons to suspect they might be closely related. For example, substantial research casts doubt on the premise that perceived support primarily reflects stress and coping. In response to this research, a new theory, relational regulation theory (RRT; Lakey & Orehek, in press), hypothesizes that the main effects between perceived support and emotional well-being reflect ordinary yet affectively consequential conversation and shared activities, including those centered on positive events. If so, then perceived and capitalization support should be substantially similar empirically as indicated by their similar patterns of correlations with other constructs.

The dominant theoretical explanations for perceived support's links to emotional well-being were derived from Lazarus and colleagues' stress and coping theory (Lazarus, 1966; Lazarus & Folkman, 1984) and state that specific supportive actions (i.e., enacted support; e.g., advice, reassurance) help protect individuals from bad events (i.e., stress buffering) by enhancing coping and adaptive appraisals (Cohen & Wills, 1985; Cutrona & Russell, 1990; Thoits, 1986). Perceived support reflects a history of receiving effective enacted support. However, there are empirical difficulties with this explanation. First, although perceived support shows consistent main effects with emotional well-being, stress-buffering effects are often difficult to replicate (Lakey & Cronin, 2008). Second,

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there is insufficient evidence that support's link to emotional well-being can be explained by coping or appraisal (Lakey & Cohen, 2000). Third, enacted support has not been linked consistently to emotional well-being (Barrera, 1986; Bolger, Zuckerman, & Kessler, 2000) and has not been strongly linked to perceived support (Haber, Cohen, Lucas, & Baltes, 2007). Although Lakey, Orehek, Hain, and VanVleet (2010) found that enacted support was linked to emotional well-being as predicted when social influences were isolated from recipient trait influences, enacted support still could not account for perceived support's link to favorable affect. Thus, the field needs additional mechanisms to explain perceived support's link to emotional well-being.

RRT was developed to explain the main effects between perceived support and emotional well-being. Main effects occur when people with high perceived support experience greater emotional well-being than people with low perceived support, regardless of the level of stress (Cohen & Wills, 1985). According to RRT, the main effects reflect people's regulation of their affect, thought, and action on a moment-to-moment basis through conversation and shared activities with support providers. Most of these conversations and shared activities revolve around ordinary, day-to-day matters, but some deal with positive events or negative events. Thoits (1985) captured this aspect well: "Aspects of regularized social interaction and not emotional support dimensions per se, are responsible for maintaining well-being. What we recognize as dimensions of emotional support and main effects of support are simply byproducts of these more abstract social-psychological processes" (pp. 57-58).

Capitalization support has been proposed as a distinct type of social support that describes how providers' actions augment recipients' positive events (Gable et al., 2004; Gable & Reis, 2010). Capitalization support is predicted to benefit recipients when providers respond in an active-constructive manner (e.g., "good job!"). Bad outcomes result if providers respond in a passive (e.g., "ok; what would you like to do today?") or destructive (e.g., "you could have done better") manner (Gable & Reis, 2010). Indeed, capitalization support is linked to emotional and relationship well-being when support providers respond in an active-constructive manner (Gable et al., 2004; Gable, Gonzaga, & Strachman, 2006; Reis et al., 2010) but is associated with negative emotional and relationship outcomes when providers respond passively or destructively (Gable et al., 2004; Reis et al., 2010).

Stress and coping social support theory, capitalization support theory, and RRT make different predictions about the extent to which perceived support and capitalization support are conceptually and empirically similar. Stress and coping theory and capitalization support theory seem to agree that perceived and capitalization support are distinct. Perceived support reflects responses to negative events, and capitalization support reflects responses to positive events. Thus, measures of perceived and capitalization support should not be strongly correlated, their respective links to emotional well-being should display little overlap, and they should show different patterns of correlations with other constructs. In contrast, according to RRT, perceived support does not reflect stress and coping but instead reflects ordinary yet affectively consequential social interaction, some of which includes positive events. Thus, measures of perceived and capitalization support should be substantially correlated, overlap in their links to emotional well-being, and display very similar patterns of correlations with other constructs. Furthermore, there should be significant overlap in perceived and capitalization support's links to other constructs.

To determine if perceived and capitalization support have similar links to other constructs, we examined constructs that have been linked to either perceived or capitalization support in previous research: positive affect (Gable et al., 2004; Lakey & Scoboria, 2005; Reis et al., 2010), low negative affect (Gable & Reis, 2010; Lakey & Scoboria, 2005), and low interpersonal conflict (Gable et al., 2004; Lakey & Scoboria, 2005). Although all of these constructs have been linked to perceived or capitalization support previously, they have not been studied in the same samples, making it difficult to examine the extent to which perceived and capitalization support overlap. We also included perceived provider agreeableness and provider similarity to recipients because these are strongly linked to provider supportiveness (Lakey, Adams, Neely, et al., 2002; Lutz & Lakey, 2001), but to our knowledge no research has examined their links to capitalization support.

In conducting research on social support, it is important to distinguish between trait and social influences. By trait influences we mean the aspects of support and other constructs that are stable across different support providers and time. For example, Recipient A might characteristically see other providers as more supportive and characteristically experience more positive affect than does Recipient B. By social influences, we mean the aspects of support and other constructs that ebb and flow depending on the specific support provider that the recipient is interacting with or thinking about. For example, apart from Recipient A's dispositional tendencies to see providers as supportive and to experience positive affect, Recipient A experiences the most support and positive affect when with Provider A, a moderate amount when with Provider B, and the least when with Provider C. Recipient B shows a different pattern in response to her providers. If a study has been designed to sample recipients' reactions to multiple providers, it is straightforward to isolate and estimate the relative magnitudes of trait and social influences using a variety of variance partitioning techniques, as demonstrated in our team's previous research (Barry, Lakey, & Orehek, 2007; Lakey et al., 2010; Lakey & Scoboria, 2005; Merlo & Lakey, 2007).

It is important to isolate trait and social influences for at least two reasons. First, if a theory's predictions are about social influences specifically, then accurate tests of the theory require the isolation of social influences from trait influences. RRT, capitalization support theory, and stress and coping social

support theory specifically apply to social influences. Second, constructs can have very different patterns of findings depending on whether trait or social influences are analyzed. For example, people who characteristically receive high levels of enacted support characteristically experience high negative affect (i.e., trait influences), but within a specific dyad, the provider that offers high levels of enacted support elicits low negative affect (i.e., social influences; Lakey et al., 2010). Similarly, the provider that elicits low levels of attachment avoidance in the recipient also elicits favorable affect in the recipient (i.e., social influences). In contrast, attachment avoidance and favorable affect are not related when correlations reflect recipients' characteristic tendencies to experience attachment avoidance and unfavorable affect across providers (Barry et al., 2007; Merlo & Lakey, 2007). Thus, failing to distinguish between trait and social influences can yield misleading findings.

In addition to providing more precise tests of social theories, isolating trait and social influences has the additional advantage of developing knowledge about personality processes for constructs originally intended to reflect only social influences. For example, approximately one fourth of the variance in perceived support reflects recipients' trait-like tendencies to perceive providers as supportive, regardless of the characteristics of providers (Lakey, 2010). Support recipients who characteristically perceive others as supportive display cognitive biases whereby even when exposed to exactly the same information about providers, high perceived support recipients see providers as more supportive and as more similar to recipients than do low perceived support recipients (Lakey, 2010; Lakey & Cassady, 1990). To our knowledge, trait processes have not yet been identified for capitalization support, but given the substantial role of trait influences in perceived support, it would be surprising if trait influences were not also present in capitalization support.

In summary, we tested three theories' predictions about the similarity between perceived and capitalization support. Stress and coping theory and capitalization support theory predict that perceived and capitalization support are distinct and thus measures of perceived and capitalization support should be weakly correlated and should not show very similar patterns of correlations to other constructs. In contrast, RRT predicts that perceived and capitalization support are substantially similar and thus measures of perceived and capitalization support should be substantially correlated, should overlap in their links to emotional well-being, should show very similar patterns of links to other constructs, and should overlap in their links to other constructs.

Method

Participants

Three independent samples of students (total $N = 356$; 61% female; mean age = 19) recruited from psychology classes participated in exchange for course credit. Of the students, 83% were of European ancestry, 6% African, 5% Asian, 4% Hispanic, and 3% Other. An additional 18 participants (5% of total) were removed because of missing data or because they did not return for their second assessment.

Procedure

Sample 1 was drawn in the fall semester of 2007, Sample 2 was drawn in the winter semester of 2008, and Sample 3 was drawn in the fall and winter semesters of 2008–2009. In each sample, participants completed measures in groups of approximately 20. Participants answered questions with regard to three support providers: their mothers (or mother figures), fathers (or father figures), and closest peer in counterbalanced order. Of participants, 94% rated their biological mothers and 88% rated their biological fathers. With regard to closest peers, 67% of participants rated their best friends and 32% rated romantic partners. Of the participants, 34% had known their closest peers for more than 6 years, 31% had known their peers for 3 to 5 years, 24% had known their peers for 1 to 2 years, and 11% had known their peers for less than 1 year; also, 67% reported contact with their closest peers nearly every day, 54% reported contact with their mothers nearly every day, and 43% reported contact with their fathers several times per week. Measures were completed in the same order except that for half the sample perceived support was the first measure and capitalization support was the last measure. This order was reversed for the other half. Perceived and capitalization support were separated to reduce artifactual inflation of their correlations resulting from physical proximity.

The procedures just described were identical for all three samples, except as noted. Sample 1 participants completed the measures once. Following Lakey et al. (2010, Study 2), Samples 2 and 3 completed the measures on two separate occasions, separated by one week, so that recipient trait and social influences could be estimated while also averaging out temporally unstable perceptions of relationships and affect. Our concern was that momentary changes in how a recipient viewed a provider might inflate social influences. For example, a recipient might become very angry at her mother a few hours before participating in the study. She might report much more negative affect with her mother and rate her mother as much less supportive than the recipient would have on another day. Because social influences reflect the extent to which recipients have different responses to different providers, such an effect would bias upward social influences. Similarly, if momentary discouragement caused a recipient to rate all of his providers more negatively, such a bias would inflate trait influences. By averaging ratings across the two assessment points, the impact of these two types of bias, if present, would be minimized. Although the two assessments might remind some readers of a prospective design in which Time 1 measures are used to forecast change in affect over time, this was not our intention, and the 1-week interval between assessments

Table 1. Proportion of Variance Explained by Recipient Trait and Social Influences

	PSS	CAP	CAPAC	PA	NA	Agree	Conf	Sim
Social								
Sample 1	.72*	.29*	.39*	.44*	.58*	.56*	.66*	.60*
Sample 2	.62*	.20*	.31*	.34*	.39*	.66*	.61*	.50*
Sample 3	.49*	.24*	.42*	.31*	.32*	.46*	.51*	.58*
Combined samples	**.60***	**.25***	**.32***	**.36***	**.46***	**.43***	**.58***	**.58***
Recipient trait								
Sample 1	.09	.28*	.13*	.35*	.27*	.26*	.19*	.13*
Sample 2	.09	.34*	.08	.51*	.45*	.18*	.28*	.26*
Sample 3	.28*	.28*	.15*	.56*	.50*	.39*	.37*	.30*
Combined samples	**.17***	**.28***	**.18***	**.47***	**.38***	**.50***	**.29***	**.20***

n = 127 for Sample 1, 85 for Sample 2, and 144 for Sample 3. PS = perceived social support; CAP = capitalization support; CAPAC = capitalization support – active-constructive; PA = positive affect; NA = negative affect; Agree = provider agreeableness; Conf = conflict; Sim = provider similarity.
*$p < .05$.

is suboptimal for a prospective study. As depicted in Tables 1, 2, and 4, and as reported by Lakey et al. (2010), there were no important differences in the results between studies that assessed participants twice or only once.

Measures

Perceived support. Participants rated mothers, fathers, and peers with the seven-item Perceived Support subscale of the Quality of Relationships Inventory (QRI; Pierce, Sarason, & Sarason, 1991). An example item is, "To what extent can you count on your father for help with a problem?" The internal consistency reliability of the scale was .94 for recipient trait influences and .88 for social influences.[1]

Capitalization support. Participants rated mothers, fathers, and peers with the Perceived Responses to Capitalization Attempts scale (PRCA; Gable et al., 2004). The 12-item measure contains four subscales, each consisting of three items. Examples of items modified for the present study include "my father usually reacts to my good fortune enthusiastically" (Active-Constructive), "my father says little, but I know he is happy for me" (Passive-Constructive), "my father points out the potential down sides of the good event" (Active-Destructive), and "my father often seems uninterested" (Passive-Destructive). Following Gable et al. (2006), a composite score was obtained by subtracting the Passive-Constructive, Active-Destructive, and Passive-Destructive subscales from the Active-Constructive subscale. We also included separate analyses of active-constructive support as we suspected this aspect might be most similar to perceived support. The PRCA has established validity and reliability. Internal consistency for capitalization support was .93 for recipient trait influences and .79 for social influences. For active-constructive support, internal consistency was .75 for recipient trait influences and .81 for social influences.

Affect. The Positive and Negative Affectivity Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was used to assess participants' typical affect when with their support providers. Both the Positive and Negative Affect subscales contain ten items and have established validity and reliability (Watson, Clark, & Tellegen, 1988). Example items include "interested" and "proud" for positive affect and "nervous" and "guilty" for negative affect. We assessed both positive and negative affect because some research has found stronger links between perceived support and positive affect than between support and negative affect (Finch, 1998). Positive and negative affect are known components of mood and anxiety disorders (Watson, Clark, & Carey, 1988), and the PANAS has been used in previous research for the assessment of both state and trait affect (Watson, Clark, & Tellegen,1988). For positive affect, internal consistency was .97 for recipient trait influences and .85 for social influences. For negative affect, internal consistency was .97 for recipient trait influences and .87 for social influences.

Agreeableness. Participants rated the agreeableness of each support provider with 20 items from the International Personality Item Pool (IPIP; Goldberg et al., 2006). The IPIP agreeableness items have established reliability and validity. Example items include "my father has a good word for everyone" and "my father is not interested in other people's problems." Internal consistency was .99 for recipient trait influences and .94 for social influences.

Conflict. The QRI's (Pierce et al., 1991) 12-item Conflict subscale was used to assess interpersonal conflict between participants and their support providers. Example items include "How much do you argue with your father?" and "How critical of you is your father?" This scale has been used successfully in our team's previous research (Lakey & Scoboria, 2005). Internal consistency was .95 for recipient trait influences and .92 for social influences.

Similarity. For Samples 1 and 2, provider similarity was assessed using six items developed by Lakey, Ross, Butler, and Bentley (1996). Example items include "my father is similar to me in values" and "my father is similar to me in

Table 2. Multivariate *g* Correlations (and Standard Errors) for Social Influences

	PSS	CAP	CAPAC	PA	NA	Agree	Conf	Sim
1. PSS								
Sample 1	—	.50* (.06)	.43* (.06)	.59* (.04)	–.50* (.06)	.56* (.07)	–.54* (.05)	.57* (.05)
Sample 2	—	.51* (.06)	.35* (.06)	.49* (.07)	–.26* (.11)	.46* (.06)	–.19* (.09)	.37* (.07)
Sample 3	—	.34* (.07)	.46* (.05)	.63* (.05)	–.49* (.06)	.49* (.05)	–.51* (.06)	.49* (.04)
Combined samples	—	**.40* (.04)**	**.45* (.04)**	**.59* (.03)**	**–.46* (.04)**	**.48* (.03)**	**–.46* (.04)**	**.49* (.03)**
2. CAP								
Sample 1	—	—	.79* (.02)	.43* (.06)	–.41* (.06)	.53* (.06)	–.51* (.05)	.39* (.06)
Sample 2	—	—	.52* (.05)	.52* (.06)	–.27* (.06)	.55* (.06)	–.37* (.08)	.33* (.06)
Sample 3	—	—	.22* (.07)	.16* (.07)	–.32* (.06)	.17* (.06)	–.42* (.07)	.13* (.07)
Combined samples	—	—	**.55* (.03)**	**.35* (.04)**	**–.33* (.06)**	**.40* (.04)**	**–.40* (.05)**	**.30* (.04)**
3. CAPAC								
Sample 1	—	—	—	.32* (.05)	–.31* (.07)	.52* (.06)	–.34* (.05)	.24* (.06)
Sample 2	—	—	—	.23* (.08)	–.04 (.08)	.44* (.05)	–.13 (.08)	.16 (.08)
Sample 3	—	—	—	.26* (.06)	–.22* (.07)	.48* (.05)	–.26* (.06)	.16* (.05)
Combined samples	—	—	—	**.27* (.04)**	**–.23* (.05)**	**.48* (.04)**	**–.28* (.04)**	**.20* (.04)**
4. PA								
Sample 1	—	—	—	—	–.57* (.06)	.49* (.07)	–.53* (.06)	.57* (.05)
Sample 2	—	—	—	—	–.42* (.09)	.43* (.05)	–.46* (.08)	.51* (.06)
Sample 3	—	—	—	—	–.50* (.08)	.33* (.05)	–.58* (.04)	.49* (.05)
Combined samples	—	—	—	—	**–.51* (.05)**	**.37* (.04)**	**–.52* (.04)**	**.53* (.04)**
5. NA								
Sample 1	—	—	—	—	—	–.48* (.08)	.66* (.08)	–.47* (.06)
Sample 2	—	—	—	—	—	–.17* (.08)	.68* (.06)	–.29* (.09)
Sample 3	—	—	—	—	—	–.20* (.07)	.67* (.04)	–.30* (.07)
Combined samples	—	—	—	—	—	**–.26* (.05)**	**.66* (.04)**	**–.37* (.04)**
6. Agree								
Sample 1	—	—	—	—	—	—	–.48* (.07)	.49* (.06)
Sample 2	—	—	—	—	—	—	–.26* (.08)	.33* (.07)
Sample 3	—	—	—	—	—	—	–.32* (.05)	.24* (.06)
Combined samples	—	—	—	—	—	—	**–.32* (.05)**	**.34* (.04)**
7. Con								
Sample 1	—	—	—	—	—	—	—	–.53* (.05)
Sample 2	—	—	—	—	—	—	—	–.38* (.07)
Sample 3	—	—	—	—	—	—	—	–.38* (.06)
Combined samples	—	—	—	—	—	—	—	**–.44* (.03)**
8. Sim								
Sample 1	—	—	—	—	—	—	—	—
Sample 2	—	—	—	—	—	—	—	—
Sample 3	—	—	—	—	—	—	—	—
Combined samples	—	—	—	—	—	—	—	—

PSS = perceived social support; CAP = capitalization support; CAPAC = capitalization support – active-constructive; PA = positive affect; NA = negative affect; Agree = provider agreeableness; Conf = conflict; Sim = provider similarity.
*$p < .05$.

Table 3. Unique Links of Perceived and Capitalization Support (and Standard Errors) With Other Constructs for Social Influences

	PA		NA		Agree		Con		Sim	
PSS controlling for CAP	.47*	(.03)	–.33*	(.03)	.37*	(.04)	–.34*	(.04)	.32*	(.04)
PSS controlling for CAPAC	.47*	(.03)	–.35*	(.05)	.34*	(.04)	–.35*	(.04)	.34*	(.04)
CAP controlling for PSS	.19*	(.04)	–.19*	(.05)	.22*	(.05)	–.30*	(.04)	.16*	(.04)
CAPAC controlling for PSS	.18*	(.04)	–.11*	(.04)	.27*	(.04)	–.19*	(.04)	.09*	(.04)

Analyses are for the combined sample. PSS = perceived social support; CAP = capitalization support; CAPAC = capitalization support – active-constructive; PA = positive affect; NA = negative affect; Agree = provider agreeableness; Con = conflict; Sim = provider similarity.
*$p < .05$.

Table 4. Multivariate g Correlations (and Standard Errors) for Recipient Trait Influences

	PSS	CAP	CAPAC	PA	NA	Agree	Conf	Sim
1. PSS								
Sample 1	—	—	—	—	—	—	—	—
Sample 2	—	—	—	—	—	—	—	—
Sample 3	—	.48* (.12)	.76* (.08)	.75* (.07)	–.25* (.10)	.82* (.06)	–.34* (.11)	.70* (.07)
Combined samples	—	**.41* (.07)**	**.65* (.06)**	**.73* (.05)**	**–.26* (.08)**	**.77* (.07)**	**–.37* (.10)**	**.65* (.06)**
2. CAP								
Sample 1	—	—	**.12 (.20)**	.41* (.14)	–.08 (.22)	.23 (.16)	–.30 (.21)	–.01 (.21)
Sample 2	—	—	—	.33* (.13)	–.73* (.09)	–.08 (.32)	–.75* (.11)	.38* (.18)
Sample 3	—	—	.29* (.14)	.39* (.12)	–.43* (.08)	.28 (.16)	–.49* (.09)	.28* (.13)
Combined samples	—	—	**.22* (.08)**	**.36* (.07)**	**–.30* (.07)**	**.14 (.08)**	**–.48* (.06)**	**.17* (.08)**
3. CAPAC								
Sample 1	—	—	—	.57* (.13)	–.14 (.19)	.52* (.14)	–.24 (.18)	.66* (.17)
Sample 2	—	—	—	—	—	—	—	—
Sample 3	—	—	—	.64* (.08)	–.33* (.11)	.53* (.10)	–.34* (.15)	.61* (.12)
Combined samples	—	—	—	**.56* (.08)**	**–.30* (.06)**	**.40* (.08)**	**–.35* (.09)**	**.57* (.08)**
4. PA								
Sample 1	—	—	—	—	.17 (.17)	.80* (.08)	–.14 (.17)	.65* (.10)
Sample 2	—	—	—	—	.07 (.13)	.81* (.13)	–.03 (.21)	.63* (.13)
Sample 3	—	—	—	—	.03 (.07)	.72* (.13)	–.12 (.14)	.56* (.12)
Combined samples	—	—	—	—	**.07 (.07)**	**.75* (.05)**	**–.15 (.08)**	**.60* (.05)**
5. NA								
Sample 1	—	—	—	—	—	–.10 (.16)	.55* (.14)	.20 (.24)
Sample 2	—	—	—	—	—	.35 (.22)	.67* (.12)	.05 (.16)
Sample 3	—	—	—	—	—	–.01 (.09)	.73* (.16)	–.11 (.17)
Combined samples	—	—	—	—	—	**.11 (.08)**	**.65* (.05)**	**.02 (.08)**
6. Agree								
Sample 1	—	—	—	—	—	—	–.47* (.22)	.95* (.11)
Sample 2	—	—	—	—	—	—	.04 (.26)	.69* (.21)
Sample 3	—	—	—	—	—	—	–.17 (.12)	.78* (.23)
Combined samples	—	—	—	—	—	—	**–.19* (.08)**	**.75* (.06)**
7. Conf								
Sample 1	—	—	—	—	—	—	—	–.12 (.24)
Sample 2	—	—	—	—	—	—	—	–.18 (.24)
Sample 3	—	—	—	—	—	—	—	–.25* (.12)
Combined samples	—	—	—	—	—	—	—	**–.18* (.09)**
8. Sim							—	
Sample 1	—	—	—	—	—	—	—	—
Sample 2	—	—	—	—	—	—	—	—
Sample 3	—	—	—	—	—	—	—	—
Combined samples	—	—	—	—	—	—	—	—

ρs were not calculated when univariate analyses were not significant. PSS = perceived social support; CAP = capitalization support; CAPAC = capitalization support – active-constructive; PA = positive affect; NA = negative affect; Agree = provider agreeableness; Conf = conflict; Sim = provider similarity.
*$p < .05$.

personality." For Sample 3, we created a new set of 24 similarity items that included three 8-item sets assessing similarity in attitudes/values, activities, and coping styles. Example items include "my father is similar to me in his views on war," "my father is similar to me in what he likes to do for fun," and "my father is similar to me in how he likes to cope with stress." Preliminary analyses indicated that the items primarily reflected global similarity and the three subscales had similar correlations with other constructs. Thus, we combined all 24 items into a single perceived similarity index. To make the scaling comparable for each sample, we used *z* score transformation within each sample separately. As depicted in Tables, 1, 2, and 4, the new scale used in Sample 3 had the same pattern of correlations with other constructs as did the 6-item measure. For the combined sample, internal consistency was .89 for recipient trait influence and .88 for social influence.

Statistical Analyses

Following our team's previous research (Barry et al., 2007; Lakey et al., 2010; Lakey & Scoboria, 2005; Merlo & Lakey, 2007) we estimated the relative strength of recipient trait and social influences using the VARCOMP procedure in SPSS (Version 16.0). Parameters were estimated using restricted maximum likelihood estimation with random factors. The data were structured as providers nested within recipients × items; an example of a one-with-many design (Kenny, Kashy, & Cook, 2006). Within-subjects factors were Providers and Items, and the between-subjects factor was Recipients. Each provider was a level of the Providers factor, each participant was a level of the Recipients factor, and items formed the levels of the Items factor. Items were completely crossed with recipients and providers. Consistent with our team's previous research, odd and even items were aggregated to form two composites to simplify the design and reduce measurement error. Thus, there were two levels of the items factor: the mean of odd items and the mean of even items. Thus, the design produced five effects: recipients (i.e., recipient trait influences), providers nested within recipients (i.e., social influences), items, recipients × items, and providers nested within recipients × items. The highest order interaction (providers nested within recipients × items) served as the error term as there is only one observation per cell in the typical generalizability theory/social relations model study (Kenny, 1994). We report only recipient trait and social influences as the three effects involving items are typically viewed as measurement error. Details of effects involving items are available from the authors. Significance tests were based on confidence intervals. An effect was significant when the lower end of its 95% confidence interval exceeded 0. The difference between recipient trait and social influences was significant when their 95% confidence intervals did not overlap.

To estimate correlations among constructs for social and recipient trait influences, we calculated multivariate generalizability (Brennan, 2001a; Cronbach, Gleser, Nanda, & Rajaratnam, 1972; Strube, 2000) correlations using the computer program mGENOVA (Brennan, 2001b). Following our previous research (Barry et al., 2007; Lakey et al., 2010; Lakey & Scoboria, 2005; Merlo & Lakey, 2007), significance tests were estimated using normal approximation bootstrapping (Mooney & Duval, 1993) because parametric significance tests for multivariate g correlations are not yet available. Bootstrapping entails estimating characteristics of the sampling distribution (e.g., standard error) by taking multiple, random resamples (with replacement) from a given study's data. We used 50 random resamples using Stata as 50 resamples provide adequate estimates (Mooney & Duval, 1993) and bootstrapping must be done manually with mGENOVA. Normal approximation bootstrapping first estimates the standard error and then identifies the points on a *z* distribution marking conventional probability values. A multivariate generalizability correlation is significant when it is larger than 1.96 × the standard error. To compare the significance of the difference between two correlations, we estimated the standard error for the difference by computing the difference between the two correlations for each of the 50 resamples.

Results

We first report the proportion of variance explained by recipient trait and social influences for each construct. The results for each of the three samples as well as the combined sample are displayed in Table 1. As the results for each sample are similar, we describe only the results of the combined sample in the text. Perceived support, active-constructive capitalization, conflict, and perceived provider similarity were significantly more socially influenced than trait influenced. That is, these constructs ebbed and flowed as a function of interacting with specific providers more so than the constructs were stable across providers and time. In contrast, capitalization support, positive and negative affect, and provider agreeableness were composed of approximately equal portions of social and trait influences.[2] That is, the extent to which these ebbed and flowed as a function of interacting with specific providers was approximately equal to the extent to which the constructs were stable across providers and time.

Intercorrelations Among Constructs for Social Influences

The most direct test of the extent to which perceived and capitalization support are similar is to simply examine the magnitude of their intercorrelation. We use the term *capitalization support* as a generic term to refer to both forms of capitalization support, except as noted, as the results involving the two forms are highly similar. As displayed in Table 2, when correlations reflected social influences, supportive providers were also seen as providing capitalization support. The magnitudes of these correlations were substantial.

Next we examined links to favorable affect (Table 2). Perceived and capitalization support were significantly linked to positive affect and low negative affect when correlations reflected social influences. That is, when a recipient perceived a specific provider as supportive or as providing capitalization support, the recipient reported high positive affect and low negative affect when with that provider. However, the links between perceived support and favorable affect were significantly stronger than the links between favorable affect and capitalization support. Compared to capitalization support, perceived support had significantly stronger correlations with positive affect ($\Delta\rho = .24$, $SE\Delta = .04$) and low negative affect ($\Delta\rho = .13$, $SE\Delta = .05$). Compared to active-constructive support, perceived support had significantly stronger correlations with positive affect ($\Delta\rho = .31$, $SE\Delta = .04$) and low negative affect ($\Delta\rho = .22$, $SE\Delta = .04$).

Next, we examined the extent to which perceived support's links to favorable affect overlapped with capitalization support. We estimated the links between perceived support and favorable affect with capitalization support's variance removed as well as estimated the links between capitalization support and favorable affect with perceived support's variance removed. Following our team's previous work (Lakey et al., 2010; Merlo & Lakey, 2007) we used the SPSS (Version 16.0) multiple regression procedure to construct the appropriate standardized residuals. In constructing residuals, each recipient–provider dyad was the unit of analysis. Multivariate g correlations were then estimated from the standardized residuals using the procedures described previously.

If perceived support's and capitalization support's links to favorable affect overlap, then controlling for capitalization support should significantly reduce perceived support's link to favorable affect and vice versa. As predicted by RRT, for social influences (Table 3), controlling for capitalization support significantly reduced perceived support's link to positive affect ($\Delta\rho = .13$, $SE\Delta = .02$) and low negative affect ($\Delta\rho = .12$, $SE\Delta = .03$) and controlling for perceived support significantly reduced capitalization support's link to positive affect ($\Delta\rho = .16$, $SE\Delta = .04$) and low negative affect ($\Delta\rho = .14$, $SE\Delta = .03$). Similarly, controlling for active-constructive support significantly reduced perceived support's link to positive affect ($\Delta\rho = .13$, $SE\Delta = .03$) and low negative affect ($\Delta\rho = .12$, $SE\Delta = .03$). Similarly, controlling for perceived support significantly reduced active-constructive support's link to positive affect ($\Delta\rho = .09$, $SE\Delta = .04$) and low negative affect ($\Delta\rho = .12$, $SE\Delta = .04$). Nonetheless, perceived support and capitalization support retained their own unique, significant links to positive affect and low negative affect.

RRT also predicts that perceived support and capitalization support will have similar links to conflict, provider similarity, and provider agreeableness. As predicted, perceived support and capitalization support had the same pattern of correlations (Table 2). When a recipient saw a specific provider as supportive, the recipient also saw the provider as similar to the recipient and as agreeable and reported low conflict with the provider. The same pattern was observed for capitalization support. Compared to capitalization support, perceived support was significantly more strongly correlated with provider similarity ($\Delta\rho = .19$, $SE\Delta = .04$). There were no significant differences between perceived support and capitalization support's correlations for provider agreeableness ($\Delta\rho = .08$, $SE\Delta = .05$) or conflict ($\Delta\rho = .06$, $SE\Delta = .05$). Compared to active-constructive support, perceived support was significantly more strongly correlated with low conflict ($\Delta\rho = .18$, $SE\Delta = .04$) and provider similarity ($\Delta\rho = .29$, $SE\Delta = .04$). There were no differences in the strength of their correlations with provider agreeableness ($\Delta\rho = .01$, $SE\Delta = .04$).

RRT predicts that perceived support and capitalization support will overlap in their links to other constructs. As displayed in Table 3, controlling for capitalization support significantly reduced perceived support's link to provider agreeableness ($\Delta\rho = .11$, $SE\Delta = .02$), provider similarity ($\Delta\rho = .17$, $SE\Delta = .02$), and low conflict ($\Delta\rho = .13$, $SE\Delta = .03$) and controlling for perceived support significantly reduced capitalization support's link to provider agreeableness ($\Delta\rho = .19$, $SE\Delta = .03$), low conflict ($\Delta\rho = .10$, $SE\Delta = .02$), and provider similarity ($\Delta\rho = .14$, $SE\Delta = .03$). Similarly, controlling for active-constructive support significantly reduced perceived support's link to provider agreeableness ($\Delta\rho = .15$, $SE\Delta = .04$), low conflict ($\Delta\rho = .11$, $SE\Delta = .03$), and provider similarity ($\Delta\rho = .16$, $SE\Delta = .03$). Controlling for perceived support significantly reduced active-constructive support's link to provider agreeableness ($\Delta\rho = .21$, $SE\Delta = .03$), low conflict ($\Delta\rho = .09$, $SE\Delta = .03$), and provider similarity ($\Delta\rho = .12$, $SE\Delta = .04$). Yet perceived support and capitalization support retained unique, significant links to conflict, similarity, and agreeableness.

Thus, there were similar levels of overlap in perceived support's and capitalization support's links to other constructs when correlations reflected social influences. The median reduction of perceived support's absolute correlation with other constructs was .13 when either capitalization support or active-constructive support was controlled.[3] Capitalization support's correlations with other constructs were reduced by .14 when perceived support was controlled and active-constructive support's correlations were reduced by .12 when perceived support was controlled. The median absolute correlation between perceived support and other constructs was .34 when capitalization support was controlled and .35 when active-constructive support was controlled. Capitalization support's median absolute correlation was .19 when perceived support was controlled and active-constructive support's median absolute correlation was .18 when perceived support was controlled. Thus, as predicted by RRT, although there was significant overlap in perceived support's and capitalizations support's links to other constructs, this overlap was not complete.

Intercorrelations Among Constructs for Recipient Trait Influences

We also examined links among constructs when correlations reflected recipient trait influences (Table 4), even though these do not test predictions of the three theories under consideration, as these theories make predictions about social influences specifically. Recipients who characteristically perceived providers as supportive also characteristically experienced high positive affect, experienced low negative affect, perceived low conflict, and perceived providers as agreeable, as similar to recipients, and as providing capitalization support as well as active-constructive support. Recipients who characteristically viewed providers as offering more capitalization support also characteristically experienced high positive affect, low negative affect, and low perceived conflict and perceived providers as similar to recipients and providers as agreeable. The same pattern of findings was observed for active-constructive support.

Table 5. Unique Links of Perceived and Capitalization Support (and Standard Errors) With Other Constructs for Recipient Trait Influences

	PA		NA		Agree		Con		Sim	
PSS controlling for CAP	.68*	(.06)	–.15	(.09)	.75*	(.07)	–.23*	(.09)	.68*	(.06)
PSS controlling for CAPAC	.62*	(.06)	–.12	(.09)	.67*	(.08)	–.24*	(.10)	.57*	(.08)
CAP controlling for PSS	.09	(.10)	–.22*	(.08)	–.18	(.11)	–.36*	(.08)	–.12	(.11)
CAPAC controlling for PSS	.12	(.08)	–.10	(.08)	–.02	(.10)	–.05	(.09)	.13	(.11)

Analyses are for the combined sample. PSS = perceived social support; CAP = capitalization support; CAPAC = capitalization support – active-constructive; PA = positive affect; NA = negative affect; Agree = provider agreeableness; Con = conflict; Sim = provider similarity.
*$p < .05$.

For recipient trait influences, perceived support had stronger correlations with positive affect ($\Delta\rho = .38$, $SE\Delta = .08$), provider agreeableness ($\Delta\rho = .63$, $SE\Delta = .09$), and provider similarity ($\Delta\rho = .48$, $SE\Delta = .10$) than did capitalization support. No differences were found for negative affect ($\Delta\rho = .04$, $SE\Delta = .10$) or conflict ($\Delta\rho = .11$, $SE\Delta = .11$). Compared to active-constructive support, perceived support had stronger correlations to positive affect ($\Delta\rho = .17$, $SE\Delta = .07$) and provider agreeableness ($\Delta\rho = .37$, $SE\Delta = .08$). No differences were found for provider similarity ($\Delta\rho = .08$, $SE\Delta = .08$), negative affect ($\Delta\rho = .04$, $SE\Delta = .08$), or conflict ($\Delta\rho = .02$, $SE\Delta = .10$).

Next, we examined the extent to which perceived and capitalization support had independent links to other constructs when correlations reflected trait influences (Table 5). Controlling for capitalization support did not significantly reduce perceived support's link to any construct ($\Delta\rho = .05$ and $SE\Delta = .03$ for positive affect; $\Delta\rho = .11$ and $SE\Delta = .07$ for low negative affect; $\Delta\rho = .02$ and $SE\Delta = .06$ for provider agreeableness; $\Delta\rho = .14$ and $SE\Delta = .08$ for low conflict; and $\Delta\rho = .03$ and $SE\Delta = .04$ for provider similarity). Controlling for active-constructive support significantly reduced the correlations between perceived support and positive affect ($\Delta\rho = .11$, $SE\Delta = .05$) as well as low negative affect ($\Delta\rho = .14$, $SE\Delta = .07$) but not provider agreeableness ($\Delta\rho = .10$, $SE\Delta = .06$), low conflict ($\Delta\rho = .13$, $SE\Delta = .07$), or provider similarity ($\Delta\rho = .08$, $SE\Delta = .06$).

Finally, for recipient trait influences, controlling for perceived support significantly reduced capitalization support's association to positive affect ($\Delta\rho = .26$, $SE\Delta = .07$), provider agreeableness ($\Delta\rho = .32$, $SE\Delta = .09$), and provider similarity ($\Delta\rho = .30$, $SE\Delta = .08$) but not negative affect ($\Delta\rho = .08$, $SE\Delta = .07$) or conflict ($\Delta\rho = .12$, $SE\Delta = .06$). Capitalization support remained significantly associated only with low negative affect and low conflict (Table 5). Similarly, controlling for perceived support significantly reduced active-constructive support's association to positive affect ($\Delta\rho = .44$, $SE\Delta = .06$), low negative affect ($\Delta\rho = .20$, $SE\Delta = .06$), provider agreeableness ($\Delta\rho = .42$, $SE\Delta = .07$), low conflict ($\Delta\rho = .30$, $SE\Delta = .07$), and provider similarity ($\Delta\rho = .45$, $SE\Delta = .08$). Active-constructive support was not significantly correlated with any construct after controlling for perceived support.

In summary, when correlations reflected trait influences, there was substantial redundancy between perceived and active-constructive support, and perceived support accounted for nearly all of the meaningful variance. When perceived support was controlled, active-constructive support's links to other constructs were greatly diminished (median $\Delta\rho = .42$) and became small and nonsignificant (median $\rho = .10$). In contrast, perceived support retained strong and significant links to other constructs (median $\rho = .57$) when active-constructive support was controlled, and these links were reduced by only .11. Capitalization support showed more evidence of unique links beyond perceived support. Capitalization support showed substantial reductions in links to other constructs when perceived support was controlled (median $\Delta\rho = .26$) yet retained significant links with both low negative affect and low conflict. In contrast, perceived support's links to other constructs were reduced by .05 when capitalization support was controlled and retained strong links to other constructs (median $\rho = .68$).

Discussion

The goal of this research was to test hypotheses from three social support theories regarding the similarity between perceived support and capitalization support. Stress and coping theory and capitalization support theory view perceived and capitalization support as distinct because perceived support reflects how providers buffer recipients from the effects of bad life events whereas capitalization support reflects how providers augment recipients' reactions to positive events. In contrast, RRT predicts that perceived and capitalization support will be substantially similar because perceived support does not primarily reflect stress and coping but instead reflects how providers help regulate recipients' affect, thought, and action through ordinary conversation and shared activities. Some of these conversations and shared activities involve positive events, and thus perceived support and capitalization support should overlap in important ways. However, most of these conversations and shared activities are truly ordinary. Thus, perceived support and capitalization support should not be completely redundant.

Results were consistent with RRT. When correlations reflected social influences, perceived support and capitalization

support were substantially correlated and each had very similar patterns of correlations with favorable affect and other constructs. Moreover, perceived support's links to favorable affect and other constructs overlapped with capitalization support's links. Importantly, the links between other constructs and perceived support as well as capitalization support were not redundant, as each had independent links to these constructs. Perceived support's link to capitalization support is consistent with previous research indicating that perceived support does not primarily capture processes related to stress and coping (Barrera, 1986; Bolger et al., 2000; Haber et al., 2007; Lakey & Cohen, 2000).

An important question left unanswered is the extent to which the current findings reflect relational influences (Kenny, 1994; Kenny et al., 2006). When recipients rate the same providers, social influences can be further decomposed into provider and relational influences. Provider influences represent the extent to which recipients agree that some providers are more supportive than others and reflect objective supportiveness, insofar as interrater agreement indexes objectivity (Lakey, 2010). Relational influences represent systematic disagreement among recipients in their perceptions of the same providers and reflect the extent to which supportiveness is a matter of personal taste. For example, Recipient A might view Provider A as more supportive than Provider B, whereas Recipient B might have the opposite opinion. These distinctions are important theoretically because a core prediction of RRT is that regulation is relational. That is, the ability of a specific provider to regulate a specific recipient's affect, thought, and action is largely a matter of the recipient's personal taste. A provider who regulates well one recipient will dysregulate another recipient. In the research reported here, recipients did not rate the same providers. Instead, recipients rated their own important providers and thus relational and provider influences were confounded. Yet previous research on perceived support has shown that relational influences are approximately 9 times stronger than provider influences (Branje, van Aken, & van Lieshout, 2002; Lakey, 2010; Lakey, McCabe, Fisicaro, & Drew, 1996), and thus social influences on perceived support in the present study are likely 90% relational. However, to our knowledge, the extent to which capitalization support is relational is unknown. Though it seems unlikely to us, the links between perceived and capitalization support in the present study could reflect provider influences, which of course would be inconsistent with RRT.

Although not the primary goal of the present research, we also found strong trait influences in capitalization support that accounted for approximately half of the variance and were largely redundant with trait influences on perceived support. The strong role of trait influences in capitalization support is noteworthy because capitalization support is construed as a social process (Gable & Reis, 2010; Reis et al., 2010). Like perceived support, active-constructive support had stronger social than trait influences. To our knowledge, the present study is the first to estimate the role of trait and social influences in capitalization support.

That capitalization support has substantial trait influences has the potential to open new lines of investigations. The current study begins to sketch the characteristics of trait-like capitalization support. Recipients who characteristically saw providers as offering capitalization (or active-constructive) support characteristically experienced favorable affect and low interpersonal conflict and perceived providers as agreeable and similar to recipients. Future research might identify the mechanisms for such links. For example, the trait-like aspect of perceived support has been shown to reflect, in part, cognitive biases whereby people with low perceived support interpret the same support stimuli less positively than do people with high perceived support (Lakey, 2010; Lakey & Cassady, 1990). Future studies could investigate trait-like cognitive processes in capitalization support.

The current findings provide another example of the importance of distinguishing between trait and social influences. Active-constructive support was completely redundant with perceived support when correlations reflected trait influences yet had its own unique links to other constructs when correlations reflected social influences. Other recent research provides additional examples. Lakey et al. (2010) found that trait enacted support was linked to more negative affect whereas socially influenced enacted support was linked to less negative affect. Barry et al. (2007) and Merlo and Lakey (2007) found that attachment avoidance was linked to worse emotional well-being for social influences but not for trait influences. With regard to coping, Merlo and Lakey (2007) found that support seeking and problem-solving coping were linked to better emotional well-being for social influences but not trait influences.

Although not the focus of our study, a few additional findings warrant brief discussion. Finch (1998) found that perceived support was more strongly linked to positive affect than to low negative affect, whereas conflict was more strongly linked to negative affect than to low positive affect. In the current study, as well as in Lakey and Scoboria (2005), this pattern was especially pronounced when correlations reflected trait influences. This pattern is consistent with Gable's (2006) analysis of personal relationships as reflecting separate domains of approach and avoidance motivation, with the link between perceived support and positive affect reflecting approach motivation and the links between conflict and negative affect reflecting avoidance motivation. Yet that these groupings were less distinct when correlations reflected social influences might suggest that the two motivational systems begin to fuse within the context of close relationships.

It is important to note some of the limitations of the current study. First, our findings might be applicable only to college students of primarily European ancestry, and it is possible that social support operates differently in other cultures. Second, we are unsure how these findings would generalize to studies that use global measures of perceived and capitalization

support that ask respondents to rate their entire social networks. Such global measures do not allow one to isolate trait and social influences, and thus correlations based on global measures reflect a blend of trait and social influences. Third, measures were assessed only from the perspective of recipients. It would be important to compare recipients' perceptions to others' perceptions, especially as including multiple perspectives could separate relational from provider influences.

In conclusion, social support theories differ in whether they predict that perceived and capitalization support are distinct. Stress and coping social support theory and capitalization support theory view the two as distinct because perceived support reflects responses to negative events and capitalization support reflects responses to positive events. However, there is reason to doubt that perceived support primarily reflects processes related to coping with stress. RRT predicts that perceived support and capitalization support should overlap in important ways because the theory explains perceived support's link to emotional well-being as reflecting providers' regulation of recipients' affect, thought, and action through ordinary conversation and shared activities. Some of these conversations and shared activities will involve positive events. When correlations reflected social influences, results were consistent with RRT. Perceived support and both forms of capitalization support were substantially correlated, they displayed very similar patterns of correlations to other constructs, and their links to these constructs partially overlapped. The present research also identified that an important part of capitalization support reflected trait-like characteristics of recipients, potentially opening up new lines of investigation for capitalization support.

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Notes

1. Internal consistency reliability formulas were $\alpha_r = \sigma^2_r/[(\sigma^2_r + (\sigma^2_{rxi}/n_i)]$ for recipient trait influences and $\alpha_s = \sigma^2_{p\ nested\ within\ r}/[(\sigma^2_{p\ nested\ within\ r} + (\sigma^2_{p\ nested\ within\ rxi}/n_i)]$ for social influences, in which r indicates recipients, p indicates providers, i indicates items, and n_i indicates number of items. Internal consistency estimates are reported for the combined sample only. Estimates were essentially similar for each of the three samples.
2. It might seem counterintuitive that the proportion of variance explained for the combined sample exceeded the range of values established by each sample separately for provider agreeableness (both trait and social influences) as well as for active-constructive support (trait influences). Although the weighted average of the three means taken from each sample was equal to the mean of the combined sample, this pattern did not hold for variance components and proportion of variance explained. Combinations of samples (e.g., 1 and 2 or 2 and 3) routinely yielded estimates of proportion of variance explained that exceeded the range established by each sample separately.
3. Correlations among constructs varied in their sign, and so when comparing the typical strength of links among constructs medians were based on the absolute values of the correlations.

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