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Short Communication

Does problem orientation involve more than generalized self-efficacy? Predicting psychological and physical functioning in college students

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ABSTRACT

This study sought to determine the extent to which generalized self-efficacy and problem orientation overlap as predictors of psychological and physical functioning (e.g., life satisfaction, vulnerability to illness) in a sample of 192 college students. Results of correlational analyses indicated that generalized self-efficacy and problem orientation are related, but are not redundant with each other. Moreover, results of conducting hierarchical regression analyses indicated that although generalized self-efficacy is an important predictor of psychological and physical functioning, problem orientation, specifically, negative problem orientation added incremental validity in predicting additional unique variance in measures of functioning. Implications of the present findings are discussed.

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1. Introduction

Over the last two decades, researchers have become increasingly interested in looking at the link between social problem solving and adjustment (Chang, D'Zurilla, & Sanna, 2004; D'Zurilla, Nezu, & Maydeu-Olivares, 2004). A considerable number of studies on social problem solving in adults have found it to be related to important negative psychological variables, including depressive symptoms, anxiety, and suicide risk (see Nezu, 2004, for a recent review). Additionally, a few recent studies have shown that social problem solving is also related to important positive psychological variables such as positive affect (Baker, 2006; Chang & D'Zurilla, 1996), life satisfaction (Chang, 2003; Chang et al., 2007), and psychological well-being (Chang, Downey, & Salata, 2004). In addition, there has been a small but growing literature implicating a link between social problem solving and various health outcomes, including health status (Baker, 2006) and dietary behavior (Lesley, 2007).

2. Problem orientation as a key component of social problem solving

According to D'Zurilla and his colleagues (D'Zurilla, Nezu, & Maydeu-Olivares, 2002; D'Zurilla et al., 2004), *social problem-solving*

ing is an individual difference variable which refers to problem solving as it occurs in the real world, and is defined as the self-generated cognitive-affective-behavioral process by which a person attempts to discover effective ways of coping with problematic situations encountered in everyday living. Findings from factor-analytic studies conducted on the original theory-driven social problem-solving inventory (SPSI; D'Zurilla and Nezu, 1990) have indicated that although social problem-solving represents a general construct, it can also be considered a function of two distinguishable general processes: (1) problem orientation and (2) problem-solving style. Problem orientation, which is the motivational component of problem-solving, consists of a person's general beliefs, appraisals, and feelings about problems in living as well as his or her own problem-solving ability, whereas problem-solving style refers to the cognitive-behavioral activities by which a person attempts to cope with problems in living. Further analyses on these two general processes have identified two different problem orientation dimensions, namely, positive and negative problem orientation, and three distinguishable problem-solving styles, namely, rational problem-solving, avoidance style, and impulsivity/carelessness style (D'Zurilla and Maydeu-Olivares, 1995; Maydeu-Olivares & D'Zurilla, 1996). These five dimensions are assessed by the social problem-solving inventory-revised (SPSI-R; D'Zurilla et al., 2002). Interestingly, studies looking at the link between social problem-solving and adjustment using the SPSI-R have consistently implicated the role of problem orientations, especially, negative problem orientation (Chang et al.,

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2004). Indeed, studies looking at social problem-solving have shown a reliable link between negative problem orientation and maladjustment (e.g., Bray, Barrowclough, & Lobban, 2007; D'Zurilla, Chang, Nottingham, & Faccini, 1998; Dugas et al., 2007).

Problem orientation is the motivational component of social problem-solving (D'Zurilla and Nezu, 1990). Studies looking at problem orientation have shown that problem orientation is a major component of the problem-solving process. For example, researchers have found that problem orientation, especially negative problem orientation, is a more robust predictor of negative psychological functioning than are problem-solving styles (e.g., D'Zurilla and Nezu, 1999; Haugh, 2006; Kant, D'Zurilla, & Maydeu-Olivares, 1997; Robichaud & Dugas, 2005a; Robichaud & Dugas, 2005b). Moreover, researchers have found that treatment that includes training in problem orientation is more efficacious than treatment that merely focuses on problem-solving skills training (Malouff, Thorsteinsson, & Schutte, 2007).

Within social problem-solving theory, problem orientation is thought to be partly predicated on, but not redundant with, generalized outcome expectancies and generalized self-efficacy. Indeed, with regard to generalized outcome expectancies, findings from past studies have shown that problem orientation is strongly associated with *optimism* and *pessimism*, generalized positive and negative outcome expectancies (Scheier & Carver, 1985), but is not redundant with them. For example, Chang and D'Zurilla (1996) found that positive problem orientation was significantly associated with optimism ($r = .52$), whereas negative problem orientation was significantly associated with pessimism ($r = .59$). Moreover, these researchers found that even after controlling for optimism, positive problem orientation maintained a significant association with cognitive restructuring coping. Similarly, they found that even after controlling for pessimism, negative problem orientation maintained a significant association with wishful thinking. However, less is known about problem orientation and *generalized self-efficacy*, that is, beliefs about one's general ability to successfully reach goals (Schwarzer, 1992).

On the one hand, problem orientation is believed to also be associated with generalized self-efficacy. According to Bandura (1977; see also Lazarus & Folkman, 1984; Sanna, 1992), the decision of whether or not to engage in problem-solving behaviors is dependent on an individual's assessment of his/her ability to successfully cope with the problem at hand. Thus, it is not surprising that generalized self-efficacy, like problem orientation, has been implicated as a useful predictor of both psychological and physical adjustment (e.g., Hampton, 2004; Luszczynska, Gutierrez-Dona, & Schwarzer, 2005). On the other hand, problem orientation and generalized self-efficacy are conceptually distinct constructs. Whereas problem orientation may be strongly predicated on generalized self-efficacy, the converse is not true. Generalized self-efficacy is not largely predicated on problem orientation. Specifically, generalized self-efficacy, reflecting a person's global appraisal of confidence in his/her abilities (Schwarzer, 1992), can be viewed as a composite of specific self-efficacy expectancies drawn from across a wide range of both problematic and non-problematic situations, and determined by different types of experiences, from enactive to vicarious experiences (Bandura, 1977). Thus, relative to problem orientation, generalized self-efficacy should represent the broader and more robust correlate of adjustment. Accordingly, from the standpoint of social problem-solving theory (D'Zurilla and Maydeu-Olivares, 1995; D'Zurilla et al., 2004) it would be important to determine if problem orientation adds incremental validity to the prediction of important outcomes even after accounting for generalized self-efficacy.

3. Purpose of the present study

With the above considerations in mind, the purpose of our present study was two-fold: (a) to examine the relationship between generalized self-efficacy and positive problem orientation; and (b) to examine the extent to which positive and negative problem orientation serve as unique predictors of psychological and physical functioning beyond what is accounted for by generalized self-efficacy.

As noted earlier, because problem orientation is partly predicated on generalized self-efficacy, we expected generalized self-efficacy to be significantly and positively associated with positive problem orientation, and to be significantly and negatively associated with negative problem orientation. For predicting variance in psychological and physical adjustment, we expected generalized self-efficacy to account for a significant amount of the variance in both types of adjustment. Moreover, insofar as problem orientation is not believed to be wholly redundant with generalized self-efficacy, we expected problem orientation, especially, negative problem orientation, to add incremental validity in predicting variance in both psychological and physical outcomes.

4. Method

4.1. Participants

Two hundred and one college students (53 men and 148 women) were recruited from a large Midwestern university. All students were enrolled in an introductory psychology course and earned extra credit for their participation. Of this initial sample, 192 participants (50 men and 142 women) completed all study measures. For this sub-sample, ages ranged from 18 to 27 years, with a mean age of 19.71 (SD = 1.23) years. Men and women were not found to differ significantly in age. Participants were predominantly White (78.1%). Of the remaining participants, 10.9% were Asian, 4.7% African American, 1.0% Hispanic, 0.5% Native American, and 4.7% Other. With regard to class composition, 8.9% were freshman, 43.8% sophomore, 32.3% junior, and 15.1% senior.

4.2. Measures

4.2.1. Problem orientation

To assess for problem orientation, we used the positive problem orientation (PPO) and the negative problem orientation (NPO) scales of the social problem-solving inventory-revised (SPSI-R; D'Zurilla et al., 2002). The PPO scale contains 5-items measuring respondents' constructive problem-solving beliefs (e.g., "When I am faced with a difficult problem, I usually believe that I will be able to solve the problem on my own if I try hard enough"), while the NPO scale contains 10-items measuring respondents' dysfunctional or inhibitive problem-solving beliefs (e.g., "When I am faced with a difficult problem, I often doubt that I will be able to solve it on my own, no matter how hard I try"). Respondents are asked to rate what extent a statement is true of them across a 5-point Likert-type scale ranging from 0 (*not at all true of me*) to 4 (*extremely true of me*). In college student samples, the SPSI-R has been found to have internal reliability estimates ranging from .76 (PPO) to .95 (NPO) and test-retest (3 weeks) reliabilities ranging from .72 (PPO) to .88 (NPO) (D'Zurilla et al., 2002).

4.2.2. Generalized self-efficacy

To assess for generalized self-efficacy, we used the General Self-Efficacy Scale (GSES; Schwarzer & Jerusalem, 1995), which is a 10-item scale that measures participants' generalized self-efficacy, or beliefs about one's general ability to successfully reach goals (e.g.,

“It is easy for me to stick to my aims and accomplish my goals”). Respondents are asked to rate to what extent a statement is true of them across a 4-point Likert-type scale ranging from 1 (*not at all true*) to 4 (*exactly true*). High reliability and validity of this scale has been reported across samples of college students in various countries (Luszczynska et al., 2005). The internal reliability estimates for this scale range from .79 (American college students) to .90 (Costa Rican college students).

4.2.3. Psychological functioning

To assess for psychological adjustment we used the positive and negative affect schedule (PANAS; Watson, Clark, & Tellegen, 1988), the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), and the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999). The PANAS is a 20-item scale that measures positive and negative affect. Respondents are asked to rate to what extent they have experienced a particular emotion over the past several weeks by rating items across a 5-point Likert-type scale ranging from 1 (*slightly*) to 5 (*extremely*). The authors have reported that this scale has internal reliability estimates ranging from .87 to .88 and test–retest (8 weeks) reliabilities ranging from .68 to .71.

The SWLS is a 5-item scale that measures global satisfaction with life (e.g., “The conditions of my life are excellent”). Respondents are asked to rate their extent of agreement with items across a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The authors have reported that this scale has an internal reliability estimate of .87 and a test–retest (8 weeks) reliability of .82.

The SHS is a 4-item seven-point scale that measures perceived happiness (e.g., “Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?”). The authors have reported that this scale has internal reliability estimates ranging from .79 to .94 and a test–retest (4 weeks) reliability of .90.

4.2.4. Physical functioning

To assess for physical adjustment, we used the Vitality Scale (VS; Andersen & Lobel, 1995) and the Vulnerability to Illness Scale (VIS; Andersen & Lobel, 1995). The VS is a 26-item scale that measures respondents’ feelings of health and vitality (e.g., “I am very active during the day”). Respondents are asked to rate how often a statement is true of them across a 4-point Likert-type scale ranging from 1 (never) to 3 (always or almost always). The authors have reported an internal reliability estimate of .85.

The VIS is a 10-item scale that measures respondents’ perceptions of vulnerability to minor illnesses (e.g., “If there is a cold going around, I usually get it”). Respondents are asked to rate their extent of agreement with items across a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The authors have reported an internal reliability estimate of .86.

4.3. Procedure

All study measures were administered early in the semester in the form of a take-home survey that was returned at the next class meeting (approximately 2 days later) to all 201 participants taking an upper-level psychology course (viz, Abnormal Psychology). Before receiving a survey, participants were informed that their participation was completely voluntary. Students signed consent forms that reiterated the voluntary nature of the study and indicated that all responses would be anonymous. When the completed surveys were returned, all consent forms were immediately removed from the surveys to protect the anonymity of the participants. There was no identifying information on the surveys themselves.

5. Results

To examine whether scores on any of the study measures differed by gender, a one-way ANOVA was conducted. The results of the ANOVA indicated that there were no significant gender differences on any of the study measures. Since no significant gender differences emerged on the present set of variables, all subsequent analyses are collapsed across gender.

5.1. Relations between generalized self-efficacy, problem orientation, and psychological and physical functioning

Zero-order correlations were computed to examine the associations between generalized self-efficacy and problem orientation. As expected, generalized self-efficacy was positively associated with positive problem orientation ($r = .55$), and negatively associated with negative problem orientation ($r = -.43$).

Results of computing the correlations of generalized self-efficacy and problem orientation with measures of psychological and physical health outcomes are presented in Table 1. As this table shows, our findings were consistent with the expectation that generalized self-efficacy represents a positive construct. Specifically, generalized self-efficacy was found to be positively associated with positive affect, life satisfaction, and vitality, and negatively associated with negative affect and illness vulnerability. A similar pattern was found between positive problem orientation and psychological and physical functioning measures. However, positive problem orientation was not found to be significantly associated with illness vulnerability. As expected, negative problem orientation had the opposite pattern. Specifically, negative problem orientation was found to be positively associated with negative affect and illness vulnerability, but negatively associated with positive affect, life satisfaction, and vitality.

5.2. Beyond generalized self-efficacy: does problem orientation predict psychological and physical functioning?

To examine the amount of variance accounted for in psychological and physical functioning by generalized self-efficacy and problem orientation, we conducted a series of hierarchical regression equations. For each regression model, generalized self-efficacy was entered in the First Step, followed by positive and negative problem orientation, as a set, in the Second Step. Results of these analyses are presented in Table 2. As this table shows, generalized self-efficacy accounted for a large amount of variance in psychological functioning, accounting for 32% of the variance in positive affect, 20% of the variance in negative affect, and 17% of the variance in life satisfaction. In addition, generalized self-efficacy accounted for 12% of the variance in vitality and 5% of the variance in illness vulnerability.

Table 1

Zero-order correlations of generalized self-efficacy and problem orientation with measures of psychological and physical functioning

	PA	NA	SWLS	VS	VIS
GSES	.56***	.44***	.41***	.34***	-.23***
PPO	.37***	-.24***	.16*	.16*	.09
NPO	-.36***	.58***	-.32***	-.40***	.25***
M	32.84	21.26	25.93	31.96	26.01
SD	6.26	6.86	4.95	5.29	7.01
α	.79	.87	.86	.92	.88

Note. $N = 192$. GSES = General Self-Efficacy Scale; PPO = positive problem orientation; NPO = negative problem orientation; PA = positive affect; NA = negative affect; SWLS = Satisfaction With Life Scale; VS = Vitality Scale; and VIS = Vulnerability to Illness Scale.

* $p < .05$, *** $p < .001$.

Table 2

Hierarchical regression analyses showing amount of variance in psychological and physical functioning accounted for by generalized self-efficacy and problem orientation

Predictors	β	R	R ²	ΔR	F
PA		.56	.32		87.65***
GSES	.56***				
SPSI-R		.58	.34	.02	31.83***
PPO	.09				
NPO	-.14 [†]				
NA		.44	.20		46.46***
GSES	-.44***				
SPSI-R		.62	.38	.18	38.92***
PPO	-.02				
NPO	.48***				
SWLS		.41	.17		37.67***
GSES	.41***				
SPSI-R		.44	.20	.03	15.22***
PPO	-.09				
NPO	-.17 [†]				
VS		.34	.12		25.08***
GSES	.34***				
SPSI-R		.44	.20	.08	15.29***
PPO	-.03				
NPO	-.31***				
VIS		.23	.05		10.55***
GSES	-.23***				
SPSI-R		.29	.08	.02	5.55***
PPO	.04				
NPO	.18 [†]				

Note. N = 192. GSES = General Self-Efficacy Scale; PPO = positive problem orientation; NPO = negative problem orientation; PA = positive affect; NA = negative affect; SWLS = Satisfaction With Life Scale; VS = Vitality Scale; and VIS = Vulnerability to Illness Scale.

[†]p < .05, **p < .01, ***p < .001.

When positive and negative problem orientation were included in the prediction model, they were found to account for an additional 2% of unique variance in positive affect, 18% of unique variance in negative affect, and 3% of unique variance in life satisfaction. Furthermore, positive and negative problem orientation were found to account for an additional 8% of unique variance in vitality and 2% of unique variance in illness vulnerability. Consistent with past research, negative problem orientation was found to be the only significant predictor with the problem orientation set in each of the regression models. In sum, although the present results indicate that generalized self-efficacy is involved in psychological and physical functioning, they also point to the importance of problem orientation, especially, negative problem orientation.

6. Discussion

The present study sought to examine the link between generalized self-efficacy and problem orientation as predictors of psychological and physical functioning. Although social problem-solving theory and research have often implicated the role of generalized self-efficacy in problem orientation, no study has actually shown generalized self-efficacy to have an empirical association with problem orientation. Based on the present findings, it is clear that generalized self-efficacy is significantly involved in both positive problem orientation and negative problem orientation. However, the associations were not so large as to suggest that they represented redundant constructs. For example, generalized self-efficacy and positive problem orientation was found to only share 30% of common variance. Similarly, generalized self-efficacy and negative problem orientation was found to only share 18% of common variance. Also, it is interesting to note that although positive problem orientation and generalized self-efficacy had a similar

pattern of associations with psychological and physical functioning measures, some differences were found. First, the associations involving generalized self-efficacy were generally stronger than those for positive problem orientation. Second, whereas generalized self-efficacy was found to be negatively associated with illness vulnerability, positive problem orientation was not significantly related to illness vulnerability. Thus, although both generalized self-efficacy and positive problem orientation represent important positive psychology constructs, they appear to be quite different in function, with generalized self-efficacy having more robust associations, than positive problem orientation, with psychological and physical functioning.

An important objective of the present study was to also determine the extent to which problem orientation represented an important unique predictor of psychological and physical functioning after accounting for the variance in functioning predicted by generalized self-efficacy. As expected, given the correlational findings, generalized self-efficacy was found to account for a considerable amount of the variance in both measures of psychological and physical functioning. Importantly, when problem orientation was entered as a set, it was found to account for additional unique variance in all five measures of psychological and physical functioning. However, in each and every case, only negative problem orientation emerged as a significant predictor within the set. It may be that negative problem orientation plays a more robust role as a predictor of adjustment in healthy populations where self-enhancing positive thinking is more chronic (Chang, 2001; Chang, 2007), whereas positive problem orientation may play a more robust role as a predictor of adjustment in populations where negative thinking is more chronic, such as in a clinical population (D'Zurilla et al., 1998), or is more accessible, such as in Asians (Chang & Asakawa, 2003; Chang, Asakawa, & Sanna, 2001) and Asian Americans (Chang, 1996). Regardless, the pattern of our findings is consistent with past research implicating the robust role of negative problem orientation in psychological functioning (D'Zurilla et al., 2004). Nonetheless, our findings go further in two ways. First, they indicate that negative problem orientation was associated with functioning independent of generalized self-efficacy (see also, Robichaud & Dugas, 2005b). Second, these findings add to the growing literature showing that negative problem orientation is not only associated with psychological functioning, but also physical functioning (Baker, 2006; Lesley, 2007). Finally, although much of past research on social problem-solving has focused on how aspects of the social problem-solving model are linked to negative functioning (e.g., depressive symptoms, anxious symptoms, suicide ideation), the present findings show that negative problem orientation, as part of the social problem-solving model, represents an important predictor of positive psychological and physical functioning (viz., positive affect, life satisfaction, and vitality).

Overall, the present findings show that both generalized self-efficacy and problem orientation play an important role as predictors of psychological and physical functioning. Accordingly, the present findings may be taken to suggest the importance of incorporating problem-solving therapy alongside self-efficacy training (D'Zurilla and Nezu, 1999; D'Zurilla and Nezu, 2001). For example, stress inoculation training has as one of its aims to increase self-efficacy through teaching clients skills to cope with stressful life events. It may be that the addition of problem-solving therapy, especially training in problem orientation, would augment this intervention by training clients to identify problems, approach them as solvable challenges, and to rationally go through the problem-solving steps (viz., problem definition and formulation, generation of alternative solutions, decision making, solution implementation and verification). Although the present findings remain preliminary, they indicate a greater need for researchers to consider pluralistic prediction models that may point to a more

comprehensive understanding of what predictors matter most in determining psychological and physical functioning, including variables like social problem-solving, outcome expectancies, and self-efficacy. In turn, such efforts may help to identify useful approaches to interventions, to both reduce illness and increase well-being.

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