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Parental Autonomy Support and Career Well-Being: Mediating Effects of Perceived Academic Competence and Volitional Autonomy

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Abstract

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Keywords

parental autonomy support, career well-being, perceived volitional autonomy, perceived academic competence, self-determination theory

Disciplines

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Comments

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Abstract

Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000) was used to explain the relation of parental autonomy support for making their own decisions and career well-being (i.e., more academic major satisfaction and less subjective career distress). Perceived academic competence and perceived volitional autonomy were posited to mediate the relation of mother's and father's autonomy support and career well-being in 113 university students. Perceived academic competence mediated the relation of father's support and both indicators of career well-being. Perceived volitional autonomy mediated the relation of mother's support and both indicators of career well-being. A bootstrap procedure yielded significant mediation effects of mother's and father's autonomy support on career well-being. Results are discussed in terms of SDT and career well-being.

Keywords: parental autonomy support, career well-being, perceived volitional autonomy, perceived academic competence, self-determination theory

Parental Autonomy Support and Career Well-being:
Mediating Effects of Perceived Academic Competence and Perceived Volitional
Autonomy

Choosing an academic major is a fundamental, yet daunting, task for young adults in post-secondary institutions. Selecting a major is one of the most common challenges students experience in adjusting to college (e.g., Killam, 2014). Aside from academic pressures, students' ultimate decisions about which majors to pursue set them on journeys toward certain occupations and away from other occupations, resulting in added pressure around selecting a major for those who remain doubtful about their choices. Conversely, students who are satisfied with their majors and experience minimal subjective distress about the process of making a career choice experience considerable career well-being. Creed and Blume (2013) defined career well-being as the degree to which one is satisfied with his or her career choice, and the extent to which he or she experiences subjective distress related to career choice. In the present study, a similar definition was employed using both subjective career distress and academic major satisfaction. The more proximal variable of academic major satisfaction replaced career choice satisfaction in order to better reflect college students' present experiences of career well-being. Academic major satisfaction was defined as the satisfaction students feel about their academic major (e.g., McIlveen, Burton, & Beccaria, 2013). Subjective career distress in this study was defined as negative affect directed at the career planning process, (Larson, Toulouse, Ngumba, Fitzpatrick, & Heppner, 1994). It included helplessness, depression, stress, avoidance, and anxiety about the process as well as perceived obstacles, such as disapproval and insufficient finances (Larson et al., 1994). This affective component is often the most salient for many students seeking career counseling.

Students' career well-being may be enhanced by their perceived competence in the college environment. One critical domain of competence for university students is the academic environment. Perceptions of one's academic competence is important if students are to complete the requirements of their chosen academic majors, as those majors will lead them to their eventual careers only if they are academically successful.

Students' career well-being may also be related to how much they own the choices they are making in college. As they transition from high school to college, they are learning how to be autonomous decision makers in many areas of their lives including how much they study, what major they will choose, and what courses to complete. For them, this means that they are learning to take in feedback from parents about their decision making but ultimately they need to feel that the choices they are making are internally motivated.

Helicopter parenting defined as the over involvement of parents in their children's lives (Kenny, 1987) has been shown to have a detrimental effect on students' well-being (LeMoyne & Buchanan, 2011; Padilla-Walker & Nelson, 2012). Career counselors and college educators encourage parents to provide support but simultaneously communicate to their college age children that the choices their daughters and sons are making about their academic success and their educational majors are their own. The purpose of this study was to explain career well-being by examining students' perceptions of their parents' support for making their own decisions, students' perception of themselves as academically competent, and students' perception of themselves as free to make their own decisions.

Our theoretical grounding for this study was Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000). Self-Determination Theory was employed for several reasons. First, it lays out a conceptual rationale for predicting career well-being. Second, it identifies a

positive developmentally appropriate role for parents to play in their children's decision making called parental autonomy support. Third, it places a students' perceived academic competence and their perceived autonomy in making their own choices as mediators between the parent's role and the students' career well-being. For all these reasons, SDT provided strong conceptual grounding for this investigation.

Self-Determination Theory

Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000) is a theory of motivation that posits that individuals achieve a sense of well-being by meeting three psychological needs; namely competence (feeling efficacious), autonomy (need to freely choose to initiate, maintain, and regulate one's actions), and relatedness (need for meaningful relationships). Within vocational psychology, the outcome is specifically career well-being. For the purpose of this study, we focused on the two needs most relevant to career well-being, perceptions of academic competence and autonomy.

According to SDT, people's sense of competence is a fundamental need that must be met in order to experience well-being. For college students to be successful and thrive, they must perceive themselves as academically competent. The SDT literature has demonstrated that perceived academic competence positively relates to well-being (e.g., Nota, Soresi, Ferrari, & Wehmeyer, 2011; Ryan, Still, & Lynch, 1994). According to the theory, the need for competence is also positively related to a person's need for autonomy; in fact, both are posited to be necessary to experience well-being.

The need for autonomy in the context of SDT refers specifically to volitional autonomy, that is, to have the freedom to choose to act upon one's own interests and values, rather than independent functioning (Ryan & Deci, 2000; Soenens et al., 2007). The need for volitional

autonomy has been related to well-being (e.g., Lapaille et al., 2005; Nota et al., 2011; Sheikholeslami, 2011).

Considerable work has been done to conceptualize the need for autonomy along a continuum ranging from intrinsic motivation (i.e., acting because one is very interested in the behavior for its own sake) to extrinsic motivation. There are three types of extrinsic motivation, varying from identified regulation (internalization – acting because it is important to me; though my motivation for achieving the goal remains extrinsic to myself), to introjected regulation (acting because I am internalizing external sources, such as avoiding guilt), and finally to external regulation (acting because I will receive a reward or avoid a constraint; Ryan & Deci, 2000). Taking action as a result of intrinsic motivation or identified regulation meets the need for autonomy, whereas taking action as a result of introjected regulation or external regulation does not meet the need for autonomy

Cognitive Evaluation Theory, a subset of SDT, was developed to identify the social and environmental factors that can support or hinder one's perceived competence and volitional autonomy and (Deci & Ryan, 1985; Ryan & Deci, 2000). An essential environmental factor in a young adult's life is the extent to which parents are perceived as allowing their emerging adult daughters or sons to own their own competence and to allow them to be autonomous in their own decision-making in new environments. This is called parental autonomy support. This support is conceptualized as crucial to young adults internalizing their academic successes and seeing themselves as responsible for their own choices (Ryan & Deci, 2000).

Cognitive evaluation theory suggests that parental autonomy support should increase their children's views of themselves as academically competent. Several studies have provided evidence to support that claim (e.g., Guay, Ratelle, Larose, Vallerand, & Vitaro, 2013; Guay &

Vallerand, 1997; Ratelle et al., 2004; Ryan & Deci, 2000; Ryan, Stiller, & Lynch, 1994; Vallerand et al., 1997). Moreover, parental autonomy support is theoretically linked to increasing volitional autonomy in their children. This relation has also been supported in the broader SDT literature (e.g., Ratelle et al., 2004; Soenens et al., 2007). Finally, parental autonomy support should theoretically increase their young adult children's well-being. Several literature reviews have provided evidence that parental autonomy support relates to perceived competence and volitional autonomy and ultimately relates to young adults' overall functioning and well-being (e.g., Ryan & Deci, 2000; Ryan & Deci, 2006). For example, supportive parents tend to have children who are more intrinsically motivated in various domains of functioning, such as academic environments, sports, and music (e.g., Frederick & Ryan, 1995; Grolnick, Deci, & Ryan, 1997). Soenens and colleagues (2007) also indicated parental autonomy support significantly predicted greater global self-worth, fewer depressive symptoms, and increased social well-being in college students. These effects were fully mediated by perceived volitional autonomy.

Applying SDT to Explain Career Well-being

Self-Determination Theory offers vocational psychology a conceptual model integrating perceptions of competence and perceptions of volitional autonomy in explaining career well-being. Social psychology has a rich literature providing evidence that perceived competence and perceived volitional autonomy enhance well-being (see Ryan & Deci, 2000). For students pursuing a bachelor's degree, the developmental task before them is to choose academic majors that will act as segues to their ultimate career paths (Super, Savickas, & Super, 1996). Their career well-being depends, in part, on how satisfied they are with the majors they have selected and their affective states surrounding their academic majors and career choices. Subjective career

distress encompasses the latter; the affective distress involved in career indecision, such as disengagement, avoidance, procrastination, self-blame, and negativity (Larson, Toulouse et al., 1994).. It was used in the present study in tandem with academic major satisfaction in order to operationalize career well-being in undergraduate college students.

Self-Determination Theory has been applied to vocational psychology; though not directly to career well-being. Two studies were found to be relevant to the present study. Guay, Senécal, Gauthier, & Fernet (2003) used SDT to predict career indecision, finding an indirect effect of parental career decision autonomy support on career indecision through career decision-making self-efficacy and career decision-making autonomy. In the second study, Jadidian and Duffy (2012) did not utilize a SDT framework, but examined relations among perceived competence (i.e., career decision-making self-efficacy), perceived autonomy (i.e., work volition, defined as one's perception that he or she is able to make a choice despite obstacles), and academic major satisfaction. Work volition directly predicted academic major satisfaction and career decision making self-efficacy. Both studies provided support for SDT in that perceptions of autonomy and autonomy support significantly predicted important career outcomes. The focus of the present study was to contribute to the emerging convergence of SDT with vocational psychology by focusing directly on applying SDT to predict career well-being in college students. Figure 1 illustrates our proposed model.

Perceptions of mother and father autonomy support predicting career well-being.

Studies have found parental support are associated with greater career exploration and satisfaction with the college transition (Dietrich, Kracke, & Nurmi, 2011; Van Petegem, Beyers, Vansteenkiste, & Soenens, 2012), and less chronic career indecision (Guay, Ratelle, Senécal, Larose, & Deschênes, 2006; Guay et al., 2003). Other studies outside the career arena have

shown parental autonomy support of young adults' autonomy was related to: (a) students' psychosocial functioning through self-determination (e.g., Soenens et al., 2007) and adolescents' autonomous motivation levels (e.g., Liu et al., 2013). Finally, the lack of parental autonomy support through helicopter parenting has been shown to negatively relate to students' well-being (e.g., LeMoyne & Buchanan, 2011; Padilla-Walker & Nelson, 2012).

Perceived academic competence and volitional autonomy mediating the relation of mother's and father's support and career well-being. Perceived academic competence has typically been labeled "academic self-concept" or "academic self-efficacy" in the vocational psychology literature, and has been extensively studied in terms of how it affects academic retention (e.g., Gore, 2006; Robbins et al., 2004) and academic performance (e.g., Robbins et al., 2004). Fewer studies have examined how perceptions of academic competence relate to career well-being. One study provided evidence that perceived academic competence negatively related to subjective career distress and positively related to academic major satisfaction (Larson et al., 1994) but did not examine the potential mediation effects of perceived academic competence on the relation of parental autonomy support and career well-being. One related mediation study examined career indecision rather than career well-being and career decision-making self-efficacy (i.e., perceived career decision-making competence) rather than perceived academic competence (Guay et al., 2003). They found that career decision-making self-efficacy mediated the relation between parent career decision-making autonomy support and career indecision.

Perceived volitional autonomy as a mediator has been mostly unexamined in the career domain. Guay and colleagues (2003) provided indirect supportive evidence and showed that career decision-making autonomy mediated the relation between parental career decision-making autonomy support and career indecision. A second related study examined work volition which

could be considered part of perceived volitional autonomy and found that it, related positively to academic major satisfaction, one indicator of career well-being (Jadidian & Duffy, 2012).

In addition to the empirical evidence presented above, SDT applied to vocational psychology provides the theoretical rationale for the study. Perceived academic competence was posited as a fundamental need that contributes to career well-being (Ryan & Deci, 2000). Perceived volitional autonomy was posited to drive individuals to complete freely chosen actions that they anticipate will lead to improved overall functioning (Ryan & Deci, 2000). Moreover, according to the extension of SDT, Cognitive Evaluation Theory, perceived academic competence and volitional autonomy should mediate between environmental and social supports like parental autonomy support and career well-being. (Jadidian & Duffy, 2012).

Hypotheses

For the first set of hypotheses, we expected that perceived academic competence would mediate the relation between mother's autonomy support and father's autonomy support and career well-being, as operationalized by academic major satisfaction (positive relation) and subjective career distress (negative relation). For the second set of hypotheses, we expected that perceived volitional autonomy would mediate the relation between mother's and father's autonomy support and career well-being as defined by academic major satisfaction (positive relation) and by subjective career distress (negative relation).

Method

Participants

Students taking introductory psychology courses at a large Midwestern university originally participated in mass testing for course credit. These students were invited via email to participate in the present study for additional course credit. Of these individuals, 113 students

chose to participate. This sample was comprised of 74 females and 39 males including first-year (60%), second-year (19%), third-year (12%), and fourth-year (9%) students across 44 educational majors. The average age was 19.07 years old ($SD = 1.55$). About 89% of the sample identified as European-American, 3.5% identified as Asian/Pacific Islander, 3.5% identified as Latino, 1.8% identified as African American, and 2.2% as “other”. This percentage is representative of the ethnic diversity of the campus.

Procedure

Students initially completed questions from multiple university research studies using a web-based survey program, SONA (www.sona-systems.com). Approximately one month later, participants were invited via email to participate in an additional web-based survey, Qualtrics for the present study, for which they received course credit.

Measures

Mother’s and father’s autonomy support. The college version of the Perceptions of Parents autonomy support subscale is one of three subscales of the Perceptions of Parents Scale (Grolnick, Ryan, & Deci, 1991; Robbins, 1994), which includes two 21-item six-point Likert scales for each parent. The three subscales are autonomy support, involvement, and warmth; only the autonomy support scale was used in this study. The mother’s autonomy support subscale and the father’s autonomy support subscale each have nine items with higher scores reflecting more autonomy support (e.g., “My mother/father allows me to decide things for myself,”).

Participants’ perceptions of their mothers’ and fathers’ autonomy support were distinct, in that the correlation between the mother’s and father’s autonomy support subscales was .26. A decision was made to keep both parental autonomy support scales separate, which is consistent with previous research (e.g., Abad & Sheldon, 2008; Liu et. al., 2013). In the current sample,

internal consistency was .90 for the father's autonomy support subscale and .89 for the mother's autonomy support subscale. Abad and Sheldon (2008) found that the father's autonomy support subscale related significantly to happiness and life satisfaction. and colleagues (2006) provided evidence that both mother's and father's autonomy support subscales correlated significantly with life satisfaction, positive affect and negatively correlated with depression and negative affect.

Perceived academic competence. Perceived academic competence was operationalized by the academic self-efficacy subscale of the Coping with Career Indecision Scale (CCI; Larson, Toulouse, Ngumba, Fitzpatrick, & Heppner, 1994). The academic self-efficacy subscale was made up of four 6-point Likert items assessing participants' beliefs about their abilities to effectively engage in academic activities (e.g., "I am confident in my ability to succeed academically in the courses necessary to enter my chosen or potential career"). Higher scores indicate stronger perceptions of academic competence. For the purposes of this paper, academic self-efficacy and perceived academic competence are synonymous. Internal consistency for this subscale in this sample was .73. This value was comparable to the internal consistency reported by Larson and colleagues ($\alpha = .71$; 1994). Validity estimates provided by Larson and colleagues (1994) indicated academic self-efficacy is moderately positively related to grade point average, aptitude, and investigative interests, as well as career certainty and vocational identity and negatively related to career indecision. The subscale was unrelated to personality indices (Larson et al., 1994). It also appears stable over a two-week period ($r = .84$; Larson et al., 1994), and has been shown to differentiate among subtypes of undecided students (e.g., Larson, Heppner, Ham, & Dugan, 1988; Lee, 2005).

Perceived volitional autonomy. The perceived choice subscale of the Self-Determination Scale (SDS; Sheldon & Deci 1996), which contains five 5-point Likert items, operationalized the extent to which participants perceive that their actions and decisions are freely chosen and driven by their own interests labeled volitional autonomy in the present study.. Each item in the perceived choice subscale was comprised of two bipolar statements, and participants were asked to decide which is truer on a 5-point scale. On this scale, (1) indicated only statement A was true, (5) indicated only statement B was true, and (3) indicated both statements were equally true. Items assessed the degree to which participants felt they were making their own decisions as opposed to making decisions based on external factors (e.g., “I always feel like I choose the things to do” vs. “I sometimes feel that it’s not really me choosing the things I do”). Higher scores indicate more perceived volitional autonomy. Internal consistency for the 5-item scale used in the present study was .78, which is comparable to Silva and colleagues (2010) who reported an internal consistency estimate of .84. Silva and colleagues (2010) also showed that participants who completed an intervention aimed at weight reduction compared to those in a control group scored significantly higher on the SDS perceived choice subscale. Higher scores on this scale predicted higher levels of life satisfaction and mental health (e.g., Sheikholeslami, 2011), higher quality of life (e.g., Lachapelle et al., 2005; McDougall, Evans, & Baldwin, 2010, Nota, et al., 2011), lower depression severity (e.g., Zuroff et al, 2007), and higher self-efficacy in four domains of living (e.g., making decisions, completing tasks; Nota et al., 2011).

Academic major satisfaction. The Academic Major Satisfaction Scale (AMSS; Nauta, 2007) included six 6-point Likert items assessing the degree to which college students were satisfied with their academic majors (e.g., “I wish I were happier with my choice of an academic

major,” reverse-scored). Higher scores indicated greater satisfaction. Internal consistency was .93 in the present study which is comparable to previous findings reported by Nauta (2007) in which internal consistency values of .94 and .91 were reported. The AMSS has been shown to positively correlate with career choice satisfaction, career optimism, career adaptability, and generalized self-efficacy (McIlveen et al., 2013). It also has been shown to negatively correlate with career choice anxiety and generalized indecisiveness (Nauta, 2007), and positively correlate with an internal work locus of control (Jadidian & Duffy, 2012).

Subjective career distress. Subjective career distress was operationalized by the subjective career distress subscale of the CCI (Larson et al., 1994). The subjective career distress subscale was made up of 21 6-point Likert items assessing the degree to which an individual feels he or she is experiencing distress related to career decisions (e.g., “I often feel down or depressed about selecting a major or career”). Higher scores indicated more distress. Initial construct validity provided evidence that this factor was a significant predictor in separating students who were and were not decided about their major. Furthermore, a factor analysis by Larson and colleagues (1994) presented evidence that, within the CCI, the subjective career distress and academic self-efficacy subscales measured two distinct aspects of career indecision. Internal consistency for the present study was .91, Larson and colleagues (1994) reported an internal consistency of .90 and a two-week test-retest reliability of .86. Subjective career distress also has been shown to relate negatively to career certainty, vocational identity, and problem-solving appraisal, and to relate positively to career indecision (Larson et al., 1994). Subjective career distress also appears unrelated to indices of the Holland hexagon, personality indices, and aptitude (Larson et al., 1988; 1994).

Data Analysis

A mediation model was used to examine the mediation effects of perceived academic competence and perceived volitional autonomy on the relation between mother's and father's autonomy support and career well-being. Bootstrap tests using bias corrected 95% confidence intervals were used to test the significance of the mean indirect effects (Preacher & Hayes, 2008). The calculation was repeated with 1,000 samples to yield a parameter estimate for total and specific indirect effects. A confidence interval not containing 0 would mean that the mean indirect effect across those 1,000 samples was significant (Preacher & Hayes, 2008). Using a bootstrap analysis provides greater statistical power and does not assume multivariate normality in the sampling distribution (Preacher & Hayes, 2008). Moreover, the current sample is considered moderate in size and sufficient for both power and Type I error rates (e.g., Briggs, 2006; Williams & MacKinnon, 2008).

Results

Preliminary analyses. Table 1 presents the means, standard deviations, and correlations of the variables under examination. All predictor variables except father's autonomy support significantly positively correlated with academic major satisfaction with values ranging from .29 for mother's autonomy support to .38 for perceived volitional autonomy. All predictor variables were significantly negatively correlated with the subjective career distress, with values ranging from -.21 for father's autonomy support to -.45 for perceived volitional autonomy.

Main analyses. Mother's autonomy support and father's autonomy support were the two exogenous variables; academic major satisfaction and subjective career distress were the two criterion variables; perceived academic competence and perceived volitional autonomy were the two proposed mediators in the model. To address the two sets of mediation hypotheses, a macro SPSS (version 21) program developed by Preacher & Hayes (2008) was used to test the

mediation model and to generate the bootstrapping procedure to test the significance level of the mediation (indirect) effect. Figure 2 contains the standardized beta coefficients for the direct and indirect effects on the relation between mother's and father's autonomy support and career well-being (academic major satisfaction and subjective career distress) as mediated by perceived academic competence and perceived volitional autonomy. Table 2 presents the magnitude and statistical significance of the specific and total indirect effects of mother's and father's autonomy support on career well-being through perceived academic competence first and then through perceived volitional autonomy using the bootstrapping procedure. Table 2 is organized so that the first four specific mean indirect effects reported concern the first mediator, perceived academic competence; the last four specific mean indirect effects reported concern the second mediator, perceived volitional autonomy.

Perceived academic competence. Mother's autonomy support did not directly or indirectly significantly relate to academic major satisfaction through perceived academic competence as can be seen by the dotted lines in Figure 2. Table 2 presents the results of the bootstrapping procedure that determined the significance of the mediation. The specific mean indirect effect generated across 1000 samples was not significant as shown by the 95% bias-corrected confidence interval (*BC CI*) including 0. In short, perceived academic competence did not mediate the relation of mother's autonomy support and academic major satisfaction.

Mother's autonomy support also did not directly or indirectly significantly relate to subjective career distress through perceived academic competence as shown by Figure 2. Table 2 also shows the specific mean indirect effect of mother's autonomy support on subjective career distress generated from the bootstrapping procedure to be nonsignificant as 0 was included in the

BC CI. In short, perceived academic competence did not mediate the relation of mother's autonomy support and subjective career distress.

As can be seen by Figure 2, father's autonomy support indirectly positively related to academic major satisfaction through perceived academic competence. The specific mean indirect effect of father's autonomy support on academic major satisfaction through perceived academic competence was significant in the bootstrapping procedure as shown by the lack of 0 in the *BC CI* column in Table 2. Father's autonomy support also did not directly relate to academic major satisfaction. In short, perceived academic competence fully mediated the relation of father's autonomy support and academic major satisfaction.

Father's autonomy support also indirectly negatively related to subjective career distress through perceived academic competence as shown by Figure 2. Table 2 reporting the bootstrapping procedure showed that the specific mean indirect effect of father's autonomy support on subjective career distress through perceived academic competence was significant in that the *BC CI* did not include 0. Furthermore, father's autonomy support did not directly relate to subjective career distress as shown by Figure 2. In short, perceived academic competence fully mediated the relation of father's autonomy support and subjective career distress.

In summary, the first set of mediation hypotheses was partially supported. Specifically, perceived academic competence fully mediated the relation of father's autonomy support and both indicators of career well-being, namely academic major satisfaction and subjective career distress. However, perceived academic competence did not significantly mediate the relation of mother's autonomy support and either indicator of career well-being.

Perceived volitional autonomy. As shown in Figure 2, mother's autonomy support indirectly positively related to academic major satisfaction through perceived volitional

autonomy. Table 2 provides evidence from the bootstrapping procedure that the mean indirect effect of mother's autonomy support and academic major satisfaction through perceived volitional autonomy was significant as shown by the lack of 0 in the *BC CI*. In short, perceived volitional autonomy fully mediated the relation of mother's autonomy support and academic major satisfaction.

As shown in Figure 2, mother's autonomy support indirectly negatively significantly related to subjective career distress through perceived volitional autonomy. Table 2 also presents evidence from the bootstrapping procedure that the specific mean indirect effect of mother's autonomy support on subjective career distress through perceived volitional autonomy was significant as the *BC CI* did not include 0. In short, perceived volitional autonomy fully mediated the relation between mother's autonomy support and subjective career distress.

As shown in Figure 2, father's autonomy support did not directly or indirectly significantly relate to academic major satisfaction through perceived volitional autonomy. The mean indirect effect generated from the bootstrapping procedure also yielded null findings as shown by 0 being present in *the BC CI* column in Table 2. That is, perceived volitional autonomy did not significantly mediate the relation of father's autonomy support and academic major satisfaction.

Moreover, father's autonomy support did not directly or indirectly significantly relate to subjective career distress through perceived volitional autonomy as shown by Figure 2. The mean indirect effect of father's autonomy support on subjective career distress that was generated from the bootstrapping procedure also yielded null findings. In short, perceived volitional autonomy did not significantly mediate the relation of father's autonomy support and subjective career distress.

In summary, the second set of mediation hypotheses was partially supported. Perceived volitional autonomy fully mediated the relation of mother's autonomy support and both indicators of career well-being, namely academic major satisfaction and subjective career distress. Perceived volitional autonomy did not significantly mediate the relation of father's autonomy support and either academic major satisfaction or subjective career distress.

Discussion

College students, as young adults, are working through the developmental tasks of completing bachelor's degrees and selecting satisfying majors that will prepare them to enter the world of work. Self-Determination Theory gives conceptual clarity to two fundamental needs that must be achieved during this time of college student development: The need to perceive oneself as academically competent to complete the bachelor's degree requirements, and the need to perceive oneself as in charge of the choices he or she is making. SDT purports that the more these two needs are met, the more students will experience career well-being; namely, they will be more satisfied with their choices of major and they will experience less subjective career distress. In the present study, we found evidence supporting SDT's assertion that perceptions of competence and volitional autonomy was directly related to career well-being as shown by Figure 2.

Our findings also support the roles of perceived academic competence and perceived volitional autonomy as mediators between parental autonomy support and career well-being. College students need autonomy support from their parents in the form of reassurance and freedom to make their own decisions. Cognitive Evaluation Theory, an extension of SDT, purports this autonomy support will affect students' well-being directly and indirectly through perceived competence and perceived volitional autonomy (Ryan & Deci, 2000). In our study,

perceived academic competence fully mediated the relation of father's autonomy support and both indicators of career well-being, namely academic major satisfaction and subjective career distress. Moreover, perceived volitional autonomy fully mediated the relation of mother's autonomy support and both indicators of career well-being.

Although the relation of parental autonomy support and career well-being using SDT as a framework has not been explicitly studied in the vocational literature, there have been a few related findings that laid an empirical foundation for this study. These results extend Guay and colleagues (2003) SDT work that showed that parental career decision autonomy support indirectly related to career indecision through career decision-making self-efficacy and career decision-making autonomy. Moreover the results of this study are consistent with Jadidian and Duffy's (2012) findings that work volition directly predicted academic major satisfaction and career decision making self-efficacy.

We expected perceived academic competence and perceived volitional autonomy to mediate the relation of both parent's autonomy support and career well-being. However, in this sample perceived academic competence mediated the relation of father's autonomy support and career well-being while perceived volitional autonomy mediated the relation of mother's autonomy support and career well-being. These results are tentative and need to be replicated in future studies. If this differentiation of each parent's autonomy support is validated in the literature, it may be that students' sense of academic competence is more connected to their father's autonomy support while the student's sense of volitional autonomy is more connected to mother letting them go into the larger world to make their own career decisions. We speculated that students' academic confidence may be influenced by their fathers more than their mothers since they may perceive that their fathers' support is anchored in the message of them becoming

competent successful adults. We tentatively suspected that students' perceptions of making their own choices may be more related to the parent most likely to be the most engaged in their lives which is more likely to be the mother. That is, if mother can support them while clearly communicating that the choices are theirs to make, then we would expect them to experience more career well-being. Our findings are intriguing and need to be followed up to understand the potential unique mediating roles of perceived competence versus volitional autonomy for young adults as they transition from high school through college to adulthood.

The assumption that mother's autonomy support and father's autonomy support functions in the same way was not supported in this study and is consistent with their Pearson product moment correlation being a modest .24. It is also consistent with some prior studies that showed that mother's autonomy support and father's autonomy support correlated significantly but low enough ($r_s = .27$ and $.28$) to clearly indicate they are measuring two different constructs (Abad & Sheldon, 2008; Liu et. al., 2013).

The application of SDT to career well-being is relatively new. The variables anchored in SDT in this sample explained 21.4% of the variance in academic major satisfaction and 27.8% of the variance in subjective career distress as shown in Figure 2. According to Cohen (1992), the magnitude of these effect sizes can be categorized as medium (major satisfaction) and large (subjective career distress). This suggests that SDT does explain a meaningful amount of variation in career well-being and provides a useful framework to conceptualize contributors to career well-being.

The findings from this study provide potential paths for future researchers to follow. First, separating mother's autonomy support from father's autonomy support would be prudent in future studies to examine the unique role of each parent's support as their children transition to

adulthood and the world of work. These differentiated findings need to be replicated in order to determine their theoretical and practical implications regarding the differential roles of mother's autonomy support and father's autonomy support. Second, perceived competence besides academic competence could be examined such as job-seeking competence or competence in that first position after college. Third, female and male students' should be examined separately to determine if the gender of participant would moderate the relation of mother's and father's autonomy support and the needs of competence and volitional autonomy. Third, the need for relatedness embedded in SDT could be included in future studies. One parental support variable likely related to the need for relatedness would be parental involvement and warmth.

Limitations of this study include its lack of longitudinal or experimental design. The field may benefit from future longitudinal research. In addition, the present sample was predominantly European American. Samples including ethnicity and gender as a moderator would help identify particular subgroups that may produce different relations among the variables (e.g., Jadidian & Duffy, 2012). SDT has now been applied to career indecision and career well-being. Future studies may want to investigate additional vocational outcomes, such as job satisfaction or burnout.

Practical Implications

Results of the present study largely implicate counselors working with college students. College counselors may find it useful to conceptualize the variables in Figure 1 in order to work toward increasing students' career well-being. This study provides some empirical support for the use of assessments around students' senses of academic competence, as well as the extent to which they feel the choices they are making are their own. Perceived academic confidence (i.e., academic self-efficacy) can be increased through mastery, modeling, verbal persuasion, and

lowering academic anxiety (e.g., Lent, Brown, & Hackett, 1994). Encouraging administrators and professors to structure academic success experiences to increase in difficulty, for example, is a proven technique (Devereux & Wilson, 2008). The findings of this study may also compel counselors to attend to students' senses of volitional autonomy; that is, whether they feel in charge of the decisions they are making. Traditionally, vocational counselors are trained to ascertain students' interests and confidence; they are less accustomed to focusing on volitional autonomy.

Another variable in Figure 1 that may be of importance for college counselors is the role of mother's and father's autonomy support. Academic counselors have noted concern about "helicopter" parents who may struggle with supporting the autonomy of their children. Counselors may consider interventions targeting parents during college preregistration and orientation to help them conceptualize how autonomy support can potentially enhance their children's perceived competence, volitional autonomy, and ultimately career well-being. Students could also be counseled around how to ask parents to be supportive of their emerging autonomy. Parents can be assured their child still needs their warmth and involvement, but they need to be supported and respected in making autonomous choices about their lives and future career.

Conclusion

The current study extends the intersection of vocational psychology and SDT to explain career well-being. Students' fundamental needs of perceived academic competence and volitional autonomy explained their career well-being as expected by SDT. Moreover, parents' autonomy support as perceived by the students indirectly affected their career well-being through these two fundamental needs. Finally, mother's and father's autonomy support differed; father's

autonomy support was indirectly related to career well-being only through perceived academic competence while mother's autonomy support was indirectly related to career well-being only through perceived volitional autonomy.

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Table 1

Summary of Means, Standard Deviations and Intercorrelations for All Studied Variables

Measures	1	2	3	4	5	6
1. Mother's autonomy support	-					
2. Father's autonomy support	.24**	-				
3. Perceived academic competence	.15	.27**	-			
4. Perceived volitional autonomy	.28**	.20*	.30**	-		
5. Academic major satisfaction	.28**	.11	.33**	.35**	-	
6. Subjective career distress	-.27**	-.22*	-.39**	-.39**	-.67**	-
<i>M</i>	4.75	4.66	18.29	19.90	28.61	60.90
<i>SD</i>	.86	.92	3.41	3.20	6.25	16.99

Note. $N = 113$. Mother's and father's autonomy support = mother's autonomy support subscale and father's autonomy support subscale, scores range from 1 to 6 with higher scores indicating more support; Perceived academic competence = the Coping with Career Indecision (CCI) academic self-efficacy subscale, scores range from 4 to 24 with higher scores indicating more perceived competence; Perceived volitional autonomy = the Self Determination Scale (SDS) perceived choice subscale; scores range from 5 to 25 with higher scores indicating more autonomy; Academic major satisfaction = the Academic Major Satisfaction scale, scores range from 6 to 36 with higher scores indicating more satisfaction; Subjective career distress = the CCI subjective career distress subscale, scores range from 21 to 126 with higher scores indicating higher levels of distress. * $p < .05$. ** $p < .01$.

Table 2

Bootstrap Analysis of Magnitude and Statistical Significance of Indirect Effects of Mother’s and Father’s Support on Career Well-Being (Major Satisfaction and Subjective Career Distress) through Perceived Academic Competence and Perceived Volitional Autonomy

	Indirect Effects		β and product	Mean	SE of Mean ^a	95% BC CI
				Indirect Effect (b) ^a		Lower, Upper
1a. Mother’s support	Academic comp.	Major satisfaction	(.08) X (.23) = .018	.02	.03	-.022, .105
1b. Mother’s support	Academic comp.	Subj. career distress	(.08) X (-.22) = .018	-.02	.02	-.066, .019
1c. Father’s support	Academic comp.	Major satisfaction	(.24) X (.23) = .055	.06	.05	.001, .213*
1d. Father’s support	Academic comp.	Subj. career distress	(.24) X (-.22) = .053	-.04	.03	-.116, -.004*
2a. Mother’s support	Volitional autonomy	Major satisfaction	(.25) X (.27) = .068	.08	.04	.020, .189*
2b. Mother’s support	Volitional autonomy	Subj. career distress	(.25) X (-.34) = .085	-.08	.04	-.178, -.023*
2c. Father’s support	Volitional autonomy	Major satisfaction	(.15) X (.27) = .041	.05	.04	-.010, .128
2d. Father’s support	Volitional autonomy	Subj. career distress	(.15) X (-.34) = .051	-.04	.03	-.115, .015

Note. $N = 113$. Mother’s support and Father’s support = Mother’s and Father’s perceived autonomy support respectively. Academic comp. = Perceived academic competence;; *BC CI* = Bias-Corrected Confidence Interval. ^aThese values are based on the unstandardized path coefficients. *95% Confidence interval does not include zero and therefore is significant at $p < .05$.

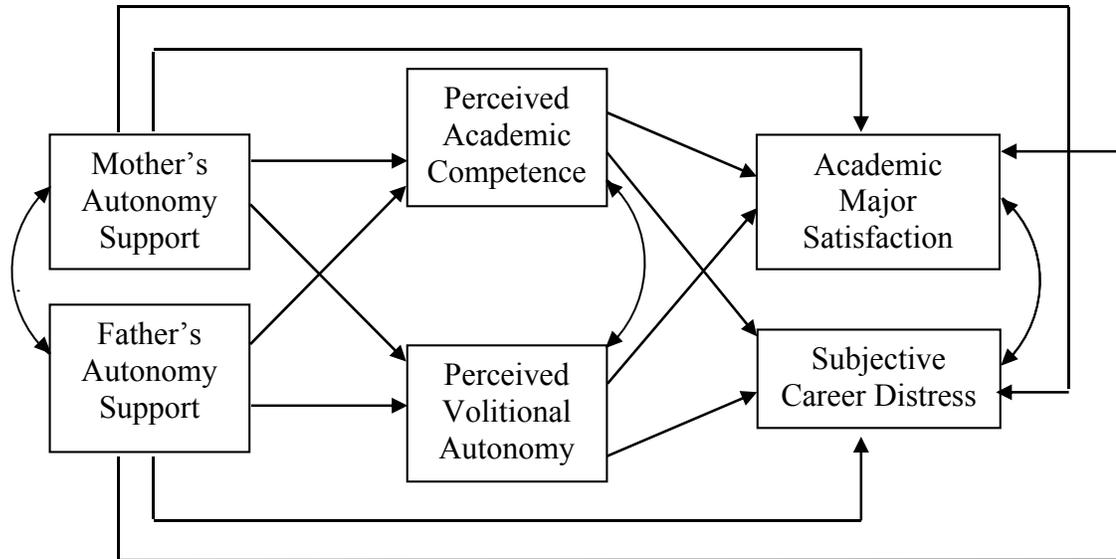


Figure 1. Hypothesized Mediation Model.

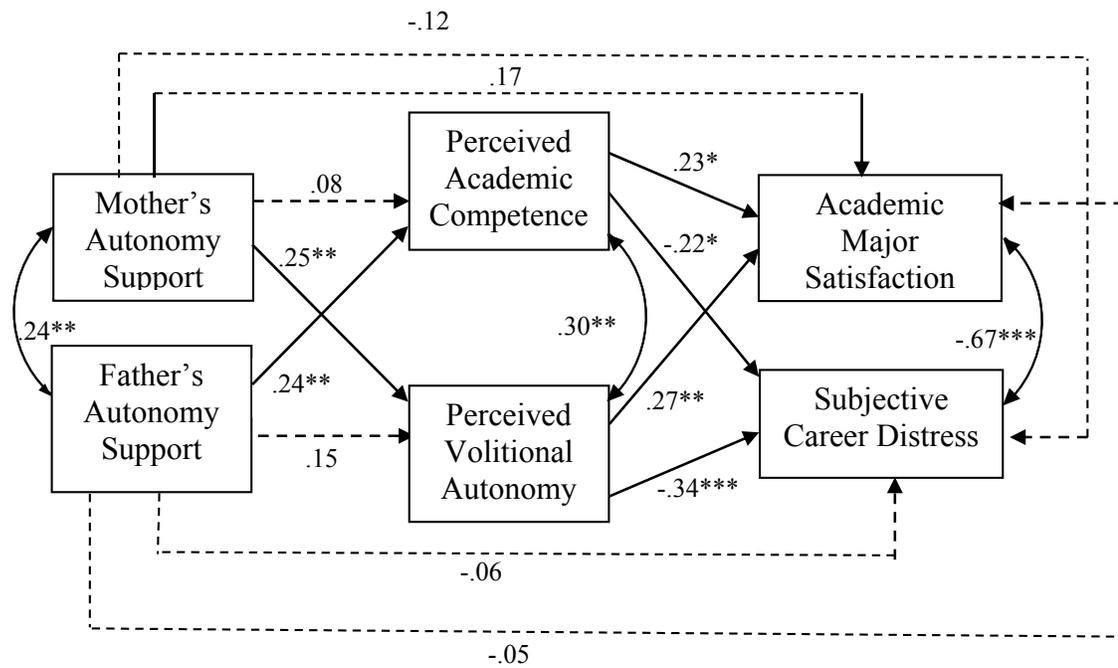


Figure 2. The Final Mediation Model.

Note. The R^2 for Academic Major Satisfaction was .214 and the R^2 for Subjective Career Distress was .278.

* $p < .05$. ** $p < .01$. *** $p < .001$.