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Future Aspirations of Young Women With Disabilities: An Examination of Social Cognitive Career Theory

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Abstract

Young women with disabilities face multiple barriers that limit their career pathways. Little research has been conducted to examine how cognitive constructs of career self-efficacy and outcome expectations contribute to their future aspirations. This study examined direct relationships between career self-efficacy and outcome expectations on future aspirations, mediating effects of autonomy and self-realization on these relationships, and moderating effects of mental health on these links for young women with disabilities. Although existing research on social cognitive career theory has focused on career self-efficacy, results from this study indicated that outcome expectations might have an even stronger influence on future aspirations. Mental health barriers negatively impact future aspirations of the study's sample. Limitations and implications for research and practice were discussed.

Keywords

career self-efficacy, outcome expectations, future aspirations, young women with disabilities, mental health, causal agency theory

Despite earning more college degrees than men for the last 25 years, women's median earnings are less than men's median earnings at every level of education (American Association of University Women, 2018). Over a half-century since the passage of the Equal Pay Act, full-time working women still earn on average 80 cents for every dollar a man earns (U.S. Census Bureau, 2018). Women with disabilities experience an even wider wage gap. According to U.S. Census Bureau (2017), individuals (men and women) with disabilities' median earnings were 66% of individuals without disabilities' median earnings; among those with disabilities, women's median earnings were 72% of men's median earnings (U.S. Census Bureau, 2017). In other words, women with disabilities earn less than *men with disabilities*, even less than *women without disabilities*, and significantly less than *men without disabilities*.

Furthermore, women with disabilities face multiple complex barriers to career development and economic stability (Smith, 2007; U.S. Agency for International Development, 2013). Although their experiences may be similar to other women in the workplace, they may encounter unique barriers in unequal hiring, training, and promotional practices that are prejudicial to women with disabilities, such as low expectations, lack of role models, and limited opportunities for career advancement (Noonan et al., 2004). A job provides more than an income. A fulfilling work life can be a source of financial independence, personal fulfillment, and psychosocial wellbeing—all of which carry positive spillover effects to overall quality of life (Bandura et al., 2001). Similarly, a contentious work life can have aversive impacts on a person's life including family relations and personal wellbeing (Bandura et al., 2001). The attainment of career aspirations has important consequences for women's mental health later in life. In a longitudinal sample of 3,499 women without disabilities, Carr (1997) found that women who did not attain their earlier career goals experienced less purpose in life and higher levels of depression.

Given the impact of employment on long-term quality of life, the field of secondary special education and transition has been investigating malleable psycho-educational factors that can support young women with disabilities in their career pursuits (Lindstrom et al., 2018). This growing

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corpus of studies have examined developmental needs (e.g., gendered experiences, intersectionality) of young women with disabilities (Ferri & Connor, 2010), social-contextual variables (e.g., social support, mental health) that propel or curtail their career development (Trainor, 2007), and cognitive variables (e.g., decision-making, problem-solving) that directly affect career interventions (Lusk & Cook, 2009). Collectively, this body of work conceptualizes the school-to-work transition as an ongoing process rather than a circumscribed event (Wehmeyer et al., 2019). This lens of analysis conceptualizes transition as a component of career development that begins with a long preparatory period from early childhood to adolescence and continuing with an extended period of adjustment to work and other life roles in adulthood (Lent et al., 1999). Consistent with this framework, researchers in transition have tested Lent et al.'s (1994) social cognitive career theory (SCCT), a heuristic model that captures this lifelong developmental process. SCCT is an extension and application of Bandura's (1986) general theory of self-efficacy into the field of career development and assessment. It holds that people are active agents of their career development and focuses on cognitive variables that shape career behaviors, namely career self-efficacy and outcome expectations (Lent et al., 1994). SCCT lends a degree of coherence and comprehensiveness for researchers interested in conceptualizing the school-to-work transition process for students with disabilities (Doren & Kang, 2016).

Career Self-Efficacy and Outcome Expectations

Lent et al. (1994) propose that agentic variables such as self-efficacy and outcome expectations interact with other person and environment characteristics (e.g., gender, disabilities, systemic barriers) to shape people's career interest, choice, and performance. Agentic variables are internal forces that enable individuals to direct their goal-oriented actions toward preferred outcomes (Shogren et al., 2017). In relation to the career development of young women with disabilities, a sense of internal agency can shape their cognitive appraisals of their own abilities, and the malleability of those abilities, to influence their career choices (Betz & Hackett, 2006). As an example, given the prevalence of math anxiety among women, an agentic young woman would have a high level of self-efficacy that could drive her to pursue a career in mathematics despite societal stereotypes of women's lack of ability in this subject (Betz & Hackett, 2006). Self-efficacy, or what people think they are capable of accomplishing, is developed through four primary channels, including a history of successful performance, observational learning, social persuasion such as verbal praise, and physiological and emotional reactions (Bandura, 1986). Whereas self-efficacy is about task completion (*Can I do this?*), outcome expectancies are anticipated consequences from specific actions (*What would happen if I do this?*). Both variables are critical to the development of career interest and choice, such that individuals' career aspirations can be curtailed if their environment offers limited or biased efficacy-building opportunities (Lent et al., 1999; Sheu et al., 2010).

Young women with disabilities may experience restricted career options due to socially constructed beliefs about gender and disabilities (Lindstrom et al., 2012; Lusk & Cook, 2009). Longitudinal data show that young women with disabilities exiting high school were often employed in stereotypical female occupations (childcare, housekeeping, etc.) that provide lower wages than typical male-dominated occupations (Newman et al., 2011). Career self-efficacy and outcome expectations provide a sound springboard for the school-to-work transition for young women by shaping their future aspirations, and their resilience to adversity in pursuit of those aspirations (Bandura et al., 2001).

Future Aspirations

Aspirations, or hopes and dreams about the future, in adolescence are a significant predictor of employment in adulthood even if those aspirations never materialized (Ashby & Schoon, 2010). According to SCCT, aspirations are a function of self-efficacy and outcome expectations, and women's career aspirations historically have been constricted due to low self-efficacy and compromised expectations for traditionally male-dominated and typically higher wage occupations (Betz & Hackett, 2006). Notably, more recent research has documented that young women with disabilities reported higher career aspirations than young men with disabilities (Lee & Rojewski, 2013); however, young women with disabilities still face limited opportunities to pursue their future aspirations (Trainor, 2007).

Autonomy and Self-Realization as Mediators

There are various pathways through which self-efficacy and outcome expectations impact future aspirations. Lent et al. (1999) proposed that a successful school-to-work transition further depends on at least one other developmental task: students' ability to translate goals into actions. This developmental task is a continually evolving self-system that gives rise to a sense of volition that is the foundation of the agentic self (Shogren et al., 2017). An agentic person is self-directed, as opposed to other-directed, driven by high aspirations, and takes ownership for navigating various pathways to achieve predetermined goals (Shogren et al., 2017). In this regard, this goal-to-action pathway links SCCT in career development

with Causal Agency Theory in transition research. Causal Agency Theory builds on the functional model of self-determination that populated the transition literature and vernacular in the last two decades. Whereas the functional model of self-determination proposes that causal agents are autonomous, self-regulated, psychologically empowered, and self-realized, Causal Agency Theory attempts to explain *how* a person acquires these essential characteristics (Shogren et al., 2017). This study investigated two component constructs within the essential characteristics of a causal agent, namely autonomy and self-realization. Autonomous individuals are self-governed (Shogren et al., 2017). A commitment to a particular future outcome is more likely when one's commitment is autonomous or intentionally derives from a core sense of self, and self-realizing or capitalizing on the purposive assessment of one's strengths and limitations (Shogren et al., 2017).

Causal agency has become a central concept in transition planning for individuals with disabilities (Shogren et al., 2017). From both the SCCT and Causal Agency Theory perspectives, causal agents exist in a social–cultural–economic context that affects the extent to which these individuals pursue their aspirations. Positive career self-efficacy and outcome expectations might impact future aspirations both directly and through the mediation of autonomy and self-realization. A mediating variable explains why or how a relationship occurs between two variables, is firmly supported by theory, and has the potential to operate in a range of contexts (Hayes & Rockwood, 2017). Therefore, according to both of these theories, self-efficacy and outcome expectations could potentially enhance future career aspirations if the individuals are more autonomous and self-realized.

In sum, the gender pay gap is wider for women with disabilities. Although both social, environmental, and individual variables contribute to this gap, research in career development and transition focuses mainly on malleable psycho-educational variables. SCCT holds individuals empowered for shaping their environment, not passively responding to it. In doing so, it focuses on individual factors in guiding career development, as opposed to social determinants of the gender pay gap, so too are we emphasizing the role of individual malleable factors in this study. This focus does not minimize the importance of social influences, and we use this model as the conceptual framework for this study because it acknowledges the reciprocal and continuous influences among person, behavior, and environment. Therefore, this exploratory study examines direct relationships between self-efficacy and outcome expectations on future aspirations, and mediating effects of autonomy and self-realization on these relationships.

Mental Health Barriers as Moderator

In addition, we also investigated whether mental health barriers moderated these links. The existing literature has not researched the role of mental health on social cognitive career development of young women with disabilities. Research with individuals without disabilities proposes a social selection theory whereby individuals with mental or physical health may be "selected" into lower status occupations due to their less optimistic views of their future and decreased likelihood to complete formal education or training (Carr, 1997). As a result, individuals with mental health barriers may have less ambitious future aspirations than those who do not. To contribute to this needed area of research, this exploratory study also investigates the impact of mental health barriers on future aspirations via self-efficacy, outcome expectations, autonomy, and self-realization. Specific research questions were as follows:

Research Question 1: Do career self-efficacy and outcome expectations have unique associations with future aspirations for young women with disabilities?
Research Question 2: Do the relative strengths of direct career self-efficacy and outcome expectations produce change in aspirations after adjusting for effects of autonomy and self-realization?
Research Question 3: Do mental health barriers moderate these links?

In sum, a moderated mediation model was tested where autonomy and self-realization were hypothesized to mediate career self-efficacy and outcome.

Method

Participants

Participants were young women with disabilities in Grades 9 through 12 from 26 high schools in the Pacific Northwest ($N = 359$). Demographics included 61% self-reported as European American ($n = 220$), 14% multiracial ($n = 50$), 5% African American ($n = 17$), 5% Native American ($n = 17$), 3% Asian American ($n = 10$), and 13% noncategorical ($n = 45$). In addition, 20% ($n = 71$) of participants self-identified as Latinx. According to teacher report, 17% ($n = 60$) were short on credits toward graduation, 26% ($n = 92$) had no prior volunteer or work experience, and 28% ($n = 101$) were chronically absent from school. Over half of the sample had either mental health barriers, such as depression or anxiety (43%, $n = 156$), or chronic health concerns, such as diabetes (10%, $n = 36$). The majority of participants had specific learning disabilities (56%, $n = 201$), followed by other health impairments (15%, $n = 54$), emotional behavioral disorders (6.1%, $n = 22$), intellectual disability (6.1%, $n = 22$), speech language impairment (3.9%, $n = 14$), autism spectrum disorder (2.5%, $n = 9$), and multiple disabilities (2.2%, $n = 8$). Less than 1% of participants were hard of hearing ($n = 3$), visually impaired ($n = 2$), or had

traumatic brain injury ($n = 2$) or orthopedic impairment ($n = 1$). Although one of the criteria for participating was that students were identified with a disability, approximately 5.8% ($n = 21$) of participants had no disability specified. These students were still included in this study because their teachers recommended them based on a list of identified barriers in academic performances, and/or family circumstances, including foster care, work experiences, and mental and physical health conditions.

Procedures

University institutional review board and school district approvals were obtained for a large-scale efficacy trial of a curriculum-based intervention designed to improve academic and career outcomes for young women with disabilities. This study analyzed baseline data from the full efficacy trial. Special education teachers and school counselors at 26 high schools in the Pacific Northwest were asked to identify student participants based on the following criteria: (a) identified as female; (b) qualified for special education services; (c) enrolled in a participating high school; and (d) had at least a fourth grade reading level to engage with the curriculum. Prior to the start of the intervention and data collection activities in each school, all instructors received one full day of professional development from the program developers and research team. This included an explanation of the intervention logic model (e.g., SCCT) and a detailed description of all data collection tools and procedures.

Special education teachers were asked to indicate whether each student was experiencing any additional risk factors/barriers in five areas including: academics, family or living, work, at-risk behaviors, and health challenges. If teachers did not have current or complete information for these students, they were asked to either consult with a school counselor or obtain information from case files. Students completed all other measures in this study. All special education teacher and student measures were completed in Qualtrics, an online survey platform. A research team member was present at each administration to obtain student assent and explain the study procedures. The research team member and a school staff were available to answer questions, clarify meaning of words, and assist with technology. Students received a US$20 gift card as compensation for their participation. The gift card was intended to boost students' morale in completing the measures and to validate their time and contribution.

Measures

Data reduction and missing data. All scale scores were evaluated for distributional properties and missing data patterns for structural equation model assumptions. Item nonresponse within scale scores were required to have more than 60% of all items present for computation of mean scores, less than 60% were calculated as scale nonresponse. Across all variables in the structural equation analysis, there was a 0.8% of missing data. Little's test of missing data mechanism indicated the data were missing completely at random, Little's Missing Completely At Random (MCAR) $\chi^2 = 39.28$, (40), $p = .50$. Therefore, it was appropriate to model data using full-information maximum likelihood (FIML), which uses all available information from the observed data in handling missing data and provides more statistically reliable standard errors when data are MCAR. In other words, missing data across items were not replaced or imputed, but were estimated within the analysis model.

Predictor variables

Career self-efficacy and outcome expectations. Twenty-nine items from the *Vocational Skills Self-Efficacy Scale* (VSSE; McWhirter et al., 2000) were used to measure career self-efficacy. Items measured participants' confidence in career preparation, engagement in work-appropriate behavior such as time management, and goal setting on a scale from 1 (*no confidence at all*) to 5 (*complete confidence*). A sample item was, "Please rate your confidence in your ability to state your general career interests." The six-item *Vocational Outcome Expectations Scale* (VOE; McWhirter et al., 2000) was used to measure participants' outcome expectations on a scale from 1 *(strongly disagree*) to 4 (*strongly agree*). A sample item was, "My career planning will lead to a satisfying career for me." McWhirter et al. (2000) reported strong evidence of convergent validity for the VSSE and adequate evidence of concurrent validity for the VOE. In this study, Cronbach's αs were .97 for the VSSE and .88 for the VOE.

Criterion variable

Future aspirations. The five-item Future Aspirations and Goals subscale of the *Student Engagement Instrument* (SEI) was designed to measure future aspirations among students in middle and high schools (Appleton et al., 2006). A sample item was, "Going to school after high school is important," with response options ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The SEI has strong evidence of construct validity (Betts et al., 2010). In this study, Cronbach's α was .88 for this subscale.

Mediator variables

Autonomy and self-realization. Autonomy was assessed with a 14-item scale that measured participants' ability to make decisions based on their preferences, beliefs, interests, and abilities related to education, career, and independent living (Doren et al., 2013). A sample item was, "I keep my appointments and meetings," which participants rated on a scale from 1 (*not even if I have the chance*) to 4 (*every time I have the chance*). Self-realization was assessed with a 15-item scale that measured participants' level of self-

Table 1. Mean Values, Standard Deviations, and Bivariate Correlation Coefficients for Study Variables.

Variables	Autonomy	Self-realization	Self-efficacy	Outcome expectations	Future aspirations
Autonomy	—				
Self-Realization	.48**	—			
Self-Efficacy	.58**	.48*	—		
Outcome expectations	.45**	.49**	.62**	—	
Future aspirations	.33**	.33**	.36**	.46**	—
M	2.66	2.71	3.38	3.15	3.32
SD	.43	.45	.83	.53	.57

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

awareness and self-acceptance. A sample item was, "It is better to be yourself than to be popular," which participants rated on a scale from 1 (*never agree*) to 4 (*always agree*). These scales were adapted from the *Arc's Self-Determination Scale* (SDS; Wehmeyer & Kelchner, 1995) using a reduced number of items and different rating scales. The SDS is a valid measure for assessing autonomy and self-realization among adolescence with disabilities (Wehmeyer et al., 2013). Using these adapted scales, Doren et al. (2013) reported a .81 and .78 alpha coefficient for autonomy and self-realization in a sample of 111 young women with disabilities or at risk for school failure. Coefficients of .74 and .68 were obtained with the sample in this study.

Moderator variable. Mental health was a teacher-reported dichotomous variable. As part of a larger checklist of barriers/risk factors, participating teachers were asked to indicate whether the student was experiencing any health or mental health barriers. This checklist item listed anxiety and depression as two examples of possible mental health barriers. It was coded with 1 if the teacher checked the box to indicate that the student did experience mental health barriers, and −1 if the teacher did not check the box, which indicated the absence of observable mental health barriers.

Analytic Strategy.

The hypothesized moderated mediation analyses were conducted using structural equation path modeling in Mplus 8.3 (Muthén & Muthén, 1998–2019). Mediation requires a significant direct effect of the exogenous variables self-efficacy and outcome expectancies on the distal outcome of future aspirations, as well as a significant effect on the hypothesized mediators of autonomy and self-realization. Mediators are in turn required to predict the distal outcome of future aspirations and are required to render the direct effect of career self-efficacy and outcome expectations nonsignificant. A final step requires a significant indirect effect. To estimate indirect effects, we used bias-corrected bootstrapped standard errors and confidence intervals as recommended to address the asymptotic distribution of the multiplicative indirect term (Preacher & Hayes, 2008). This process is then tested for moderation of mental health barriers. In other words, if effects of efficacy or expectations obtain significant indirect effects through autonomy or self-realization, then do these processes differ by students with mental health support needs and those without mental health support needs?

It should be noted that the present sample was part of a preintervention baseline data of 359 students clustered within 26 schools. Clustering is a common occurrence in education research and requires special consideration. Commonly suggested criteria are addressing multilevel nature of the data when the intraclass correlation coefficients (ICCs) are greater than .05 and the design effect exceeds 2.0 (Lai & Kwok, 2015). To determine whether the nested structure of the data (students nested within schools) warranted multilevel analysis, we calculated design effects for each predictor and criterion variable using Neuhaus and Segal's (1993) formula $(1 + [n - 1]\ \rho_x\rho_y)$, where ρ_x is the ICC of predictors, ρ_y is the ICC of criterion variables, and n is the mean number of students per school. ICCs ranged from .001 to .021, and design effects ranged from 1.00 to 1.01, which suggested no clustering bias on the standard errors of estimates. Therefore, single level path models were conducted.

Results

Descriptive Statistics

Table 1 presents bivariate correlations, mean values, and standard deviations between and for each measure. An alpha level of $p < .05$ was used for all tests of significance. Overall, measures of career self-efficacy and outcome expectations, and autonomy and self-realization, showed moderate and significant correlation with future aspirations.

Test of Hypothesized Mediation Predicting Future Aspirations

The first analysis tested for hypothesized mediation involving estimations of direct effects of career self-efficacy and

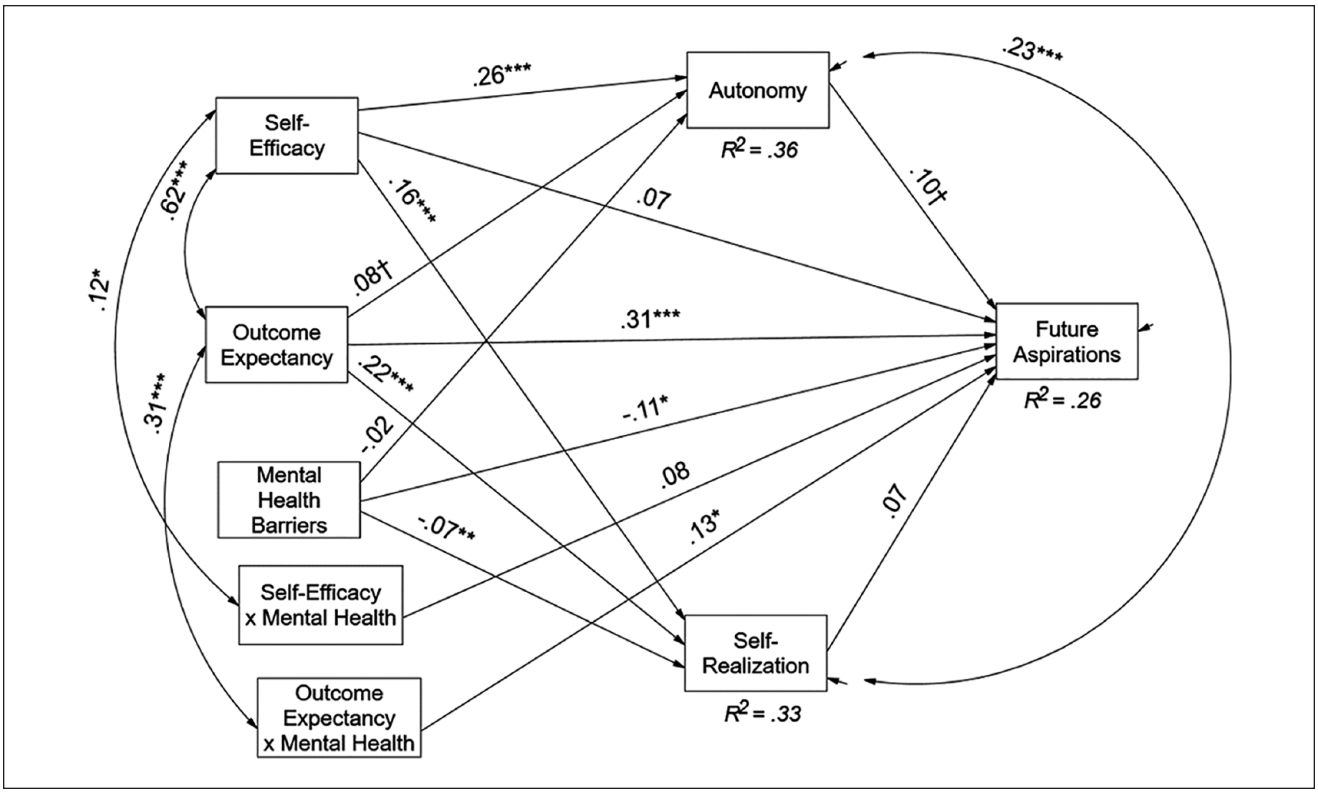

Figure 1. Test of moderated mediation effects of mental health barriers.
Note. Model is just-identified. Paths are standardized coefficients.

outcome expectations on future aspirations, followed by the test of indirect effects through autonomy and self-realization. The model was just-identified, meaning there were no degrees of freedom and there was perfect fit. Results showed both efficacy and expectations had direct effects on future aspirations ($\beta = .12$, $p < .05$, and $\beta = .39$, $p < .001$, respectively). Higher levels of efficacy and expectations were associated with higher levels of aspirations. This model explained 23% of the variance in future aspirations.

In the next analysis, the hypothesized mediators, autonomy and self-realization, were added. There was marginal support for mediation of the self-efficacy direct effect, and no mediation of the outcome expectations direct effect. Both efficacy and expectations predicted autonomy ($\beta = .49$, $p < .001$, and $\beta = .14$, $p < .01$, respectively), and both predicted self-realization ($\beta = .29$, $p < .001$, and $\beta = .31$, $p < .001$, respectively). Efficacy and expectations accounted for 35% and 29% of the variance in autonomy and self-realization, respectively. In turn, autonomy and self-realization were marginally associated with future aspirations ($\beta = .11$, $p < .10$, and $\beta = .10$, $p < .10$, respectively). Although the direct effect of self-efficacy was rendered nonsignificant, outcome expectations retained a significant direct effect. Estimates of the four specific indirect effects through autonomy and self-realization were not significant (e.g., efficacy → autonomy → aspirations; expectations → self-realization → aspirations). However, the sum of indirect effects for each exogenous variable was significant. The standardized sum of indirect effects for efficacy was .082, $p < .01$, bias corrected 95% confidence interval (CI) [.036, .140]; and standardized sum of indirect effects for expectations was .045, $p < .05$, bias corrected 95% CI [.014, .086].

That is, outcome expectations exhibited direct and indirect effects on future aspirations. For career self-efficacy, there was some support for mediation of care self-efficacy's direct effects on aspirations through autonomy and self-realization combined (summed). The finding that specific indirect effects were not significant, but the *sum* of indirect effects were significant could be due to the sample size being underpowered at a level to detect independent indirect effects (see Shrout & Bolger, 2002).

Moderated Mediation Effects of Mental Health Barriers

The last analysis specified mental health barriers as a moderator of the hypothesized mediation process. That is, do students with or without mental health barriers affect the indirect effect pathways through autonomy and self-realization

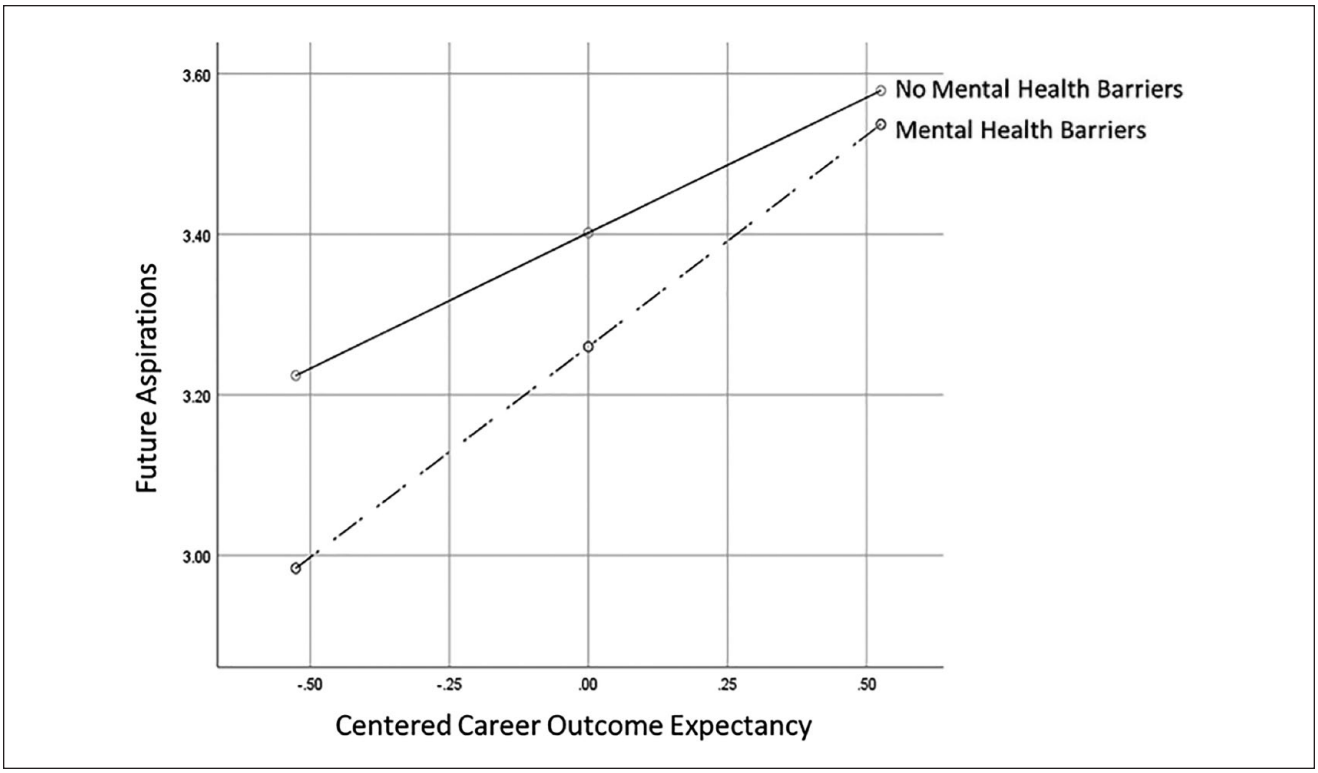

Figure 2. Simple slopes plot for the Mental Health × Outcome Expectations interaction effect.
Note. The data on the left side of the figure show how mental health barriers interfere with the effect of expectations on future aspirations. The slope for expectations on future aspirations for young women with mental health barriers shows that having low expectations is associated with significantly lower future aspirations when there are mental health barriers. In the absence of mental health barriers, there are higher aspirations.

differently? To test this model, main effects of self-efficacy, outcome expectations, and mental health barriers were centered followed by their centered cross products. Results are shown in Figure 1 in the form of standardized path coefficients. Although the model was just-identified, for clarity, only significant correlations are displayed, and only paths for main effects of exogenous variables plus the two interaction terms to future aspirations are displayed.

There was evidence that the main effect of outcome expectations was moderated by mental health barriers, but not for self-efficacy. Therefore, the effect of outcome expectations was conditioned upon mental health status, but the effect of efficacy was not. Significant main effects in the presence of interaction terms were the main effect of exogenous variables when other variables were at average levels. Thus, when efficacy and mental health barriers were at average levels, outcome expectations were still associated with future aspirations ($\beta = .31$, $p < .001$). However, the linear slope for outcome expectations was steeper in the presence of mental health barriers (Expectations × Mental Health $\beta = .13$, $p < .05$). The interaction accounted for an additional 2% of the variance in future aspirations. This indicates that, although a small effect, variance in mental health barriers provides an additional amount of statistically reliable explained variance for future aspirations of young women with disabilities.

To illustrate the interaction effect, estimated simple slopes were plotted in Figure 2 for the Expectations × Mental Health interaction. The slope shows that having low career outcome expectations was associated with significantly lower future aspirations when there were mental health barriers. In the absence of mental health barriers, there were higher aspirations. Relatedly, there was a statistically significant group difference on future aspirations between participants with mental health barriers and those without, $F(2, 354) = 50.45$, $p < .05$. Future aspiration scores of participants without mental health ($M = 3.40$, $SD = .04$) were significantly higher than the future aspiration scores of participants with mental health ($M = 3.26$, $SD = .04$). In other words, mental health barriers interfered with the future aspirations of young women with disabilities.

Discussion

The purpose of this study was to examine the direct relationships between SCCT constructs of career self-efficacy and outcome expectations on future aspirations of young women with disabilities, and the role of autonomy and

self-realization and mental health barriers on these relationships. This study was exploratory, but novel because it was the first to examine the role of autonomy and self-realization and mental health barriers for young women with disabilities within the SCCT model.

The primary mediation hypothesis of this study, that autonomy and self-realization mediate effects of career self-efficacy and expectations on aspirations, was partially supported. Tests of mediation indicated that only self-efficacy was partially mediated through autonomy and self-realization. Autonomy and self-realization did not mediate the pathway between career outcome expectations and aspirations. In other words, while one's ability to translate goals into actions is an important step for a successful school-to-work transition (Lent et al., 1999), and autonomy and self-realization are important components of this goal-to-action linkage, results from this study indicate autonomy and self-realization minimally explained how a relationship occurs between efficacy and aspirations and did not explain the association between expectations and aspirations.

Finally, results of this study also showed that young women with mental health barriers reported lower levels of future aspirations than those without mental health barriers. This finding lends a degree of support to the social selection theory, which proposes that individuals with mental or physical health barriers might self-select into less challenging occupations due to less optimistic views of their future (Carr, 1997). Importantly, results showed that the negative effect of mental health barriers on future aspirations was attenuated by young women's high level of outcome expectations. In other words, outcome expectations have the potential to buffer the adverse effect of mental health barriers on future aspirations of young women with disabilities.

A similar result was found in a sample of middle school students. Fouad and Smith (1996) tested SCCT with a sample of 380 ethnically diverse middle school students and found the path from self-efficacy to career interests was due less to its direct effect, and more to an indirect path through outcome expectations. Although the variable outcome expectations was not tested as a mediator, results from Fouad and Smith (1996) and from this study suggest that one malleable factor for increasing career aspirations for young women with disabilities might be through interventions targeting outcome expectations, an area that has received little attention at this point (Lent et al., 2014).

There was a significant association between self-efficacy and expectations, which supports the career interest formation component of SCCT (Lent et al., 1994), whereby individuals are more likely to expect positive outcomes in areas in which they feel most efficacious. Many previous studies have focused on self-efficacy for this reason. Of the constructs in SCCT, career self-efficacy has received most of the attention in disability research (Lent et al., 2014). A potential novel finding of this study was the relative strength of expectations relative to efficacy. As other research indicates, career self-efficacy is associated with attainment of employment goals (Kirsh et al., 2009) and length of employment (O'Sullivan et al., 2012) for some individuals with disabilities or mental health barriers. These findings showed that potentially, career outcome expectations might be a more relevant target of intervention given its direct and indirect effects in the model for this study's sample of young women with disabilities.

Implications for Research

This study contributes to the limited research on the career self-efficacy, outcome expectations, and future aspirations of young women with disabilities including those who experienced mental health barriers. Future research is still needed to clarify the mechanism linking career self-efficacy and expectancies to future aspirations. Although results in this study indicated that autonomy and self-realization was not a significant mediator of this linkage, perhaps another measure that better captures the goal-to-action linkage could be used to test Lent et al.'s (1999) proposition that a student's ability to translate goals into actions is necessary to facilitate a successful school-to-work transition. Finally, the finding that career outcome expectations attenuate the adverse effect of mental health barriers on future aspirations is still exploratory in nature. Additional research is needed to validate this pathway.

Consistent with existing research in transition, autonomy and self-realization were found to be significantly related to SCCT variables, although continued research is needed to understand the dynamic and longitudinal relationships among all of these constructs. In regard to the second hypothesis, the indirect effects of self-efficacy and outcome expectations on future aspirations by way of autonomy and self-realization were not significant. However, the sum of the indirect paths was significant, and this finding was unexpected. It is possible given the strong association between efficacy and expectations, a larger sample size is needed to detect independent indirect effects in a sample of young women with disabilities. Furthermore, contemporary recommendations require temporal specification of mediation (Hayes & Rockwood, 2017), which we did not have. Therefore, future research could investigate these hypothesized paths longitudinally and experimentally.

Finally, this study's findings suggest that mental health barriers impacted future aspirations of young women with disabilities, but that positive outcome expectations buffered these negative effects. Few studies have examined the impact of mental health on the career development of adolescents with disabilities. Dudovitz et al. (2017) suggested that career aspirations may be an indicator of adolescent well-being and found that students who reported a lack of career aspirations also reported lower levels of self-efficacy

and hope. Nalbantoglu and Cetin (2018) found with a sample of 11th- and 12th-grade students in Turkey that students who reported higher levels of career indecision also reported higher levels of career anxiety. It is possible mental health barriers might diminish future aspirations of young women with disabilities. Due to the lack of research in this area and the limitations of our exploratory study, we are unable to ascertain this claim. The impact of mental health barriers on career development is prevalent and necessitates more research attention in the future.

Limitations

There are several limitations to this study that should be taken into consideration when interpreting the results. First, although this study measured future aspirations—a key element in the career choice process and an important link between aspirations and employment outcomes—it is possible that high aspirations may not lead to improved employment outcomes for young women with disabilities. Future research should employ a longitudinal design with objective measures of goal-directed behavior to determine the role of aspirations on employment outcomes. Second, teachers reported mental health and other barriers as dichotomous yes/no variables. This relied on teachers observing and labeling signs of anxiety or depression displayed by students, or obtaining knowledge about students' mental health barriers from other school staff, written case records or students themselves. Future research examining the role of mental health in career development might utilize more direct measures to assess mental health. Finally, this study is limited by its cross-sectional design, whereby the direction of relationships between variables cannot be determined because they are correlational. Future research is needed to determine the causal and temporal associations among these constructs.

Implications for Practice

Despite the exploratory nature of this study, it offers a few important considerations for practice. First, students with disabilities are more likely to experience mental health barriers than individuals without disabilities (Emerson & Hatton, 2007; Taggart et al., 2007). Results of this study suggest that mental health barriers can impact future aspirations. In other words, in the context of career development, mental health is important to address for young women with disabilities. In addition to focusing on increasing self-awareness and exploring career options, students may also need support developing skills to cope with stress, anxiety, and depression. This is particularly important for young women in high school as after puberty, they are more than twice as likely to experience anxiety (Giedd et al., 2008) and depression (Merikangas et al., 2010) than their male peers.

Extant research suggests that young women with disabilities do have high career aspirations (Trainor, 2007). Yet, they continue to have limited career opportunities and are often employed in traditional female occupations that tend to pay less. One of the basic premises of SCCT is that career self-efficacy and expectations can foster career attainment if the individuals can translate their goals into actions. For individuals with disabilities, this goal-to-action linkage is more likely to materialize if they are causal agents in their own lives. In practical terms, this study's findings suggest that tailoring autonomy or self-realization interventions that better enhance outcome expectations has the potential to be more effective than focusing on self-efficacy alone. This dual focus on efficacy and expectations, in turn, might potentially create opportunities for young women with disabilities to translate goals into actions toward attaining their future aspirations.

Conclusion

SCCT is recognized as one of the most widely used theories of career development (Lent & Brown, 2017). Despite the poor employment outcomes of young women with disabilities, relatively little research has been conducted to examine how this theory applies to this population (Lent et al., 2014). In addition, autonomy and self-realization are important qualities of causal agency associated with the future employment of youth with disabilities (Shogren et al., 2014). Results of this study suggest that SCCT may be useful in informing career development interventions for young women with disabilities. Major findings showed that both career self-efficacy and outcome expectations predicted future aspirations of young women with disabilities, where higher levels of efficacy and expectations were associated with higher levels of aspirations. In particular, the moderate to large correlations between and among the model variables are supported by work with other samples of youth with disabilities including those with epilepsy (Sung & Connor, 2017) and learning disabilities (Ochs & Roessler, 2004), as well as diverse samples without disabilities (Byars-Winston et al., 2010; Dickinson et al., 2017). Findings from this study suggest that career self-efficacy, outcome expectations, and future aspirations are relevant and useful in understanding and facilitating the career development process for young women with disabilities.

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