Internal and external barriers, cognitive style, and the career development variables of maturity and indecision

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Abstract

One hundred and thirty final year high school students were administered scales tapping optimism/pessimism, self-esteem, external career barriers, career decision-making self-efficacy, career maturity and career indecision. It was hypothesised, first, that cognitive style (optimism/pessimism) would influence both internal (self-esteem) and external career-related barriers, second, that internal barriers would interact with external barriers and impact on career decision-making self-efficacy, and third, the previously mentioned variables would subsequently affect the career development variables of career maturity and career indecision. Results demonstrated that cognitive style was influential in determining the perception of internal barriers (for females and males) and external barriers (females only). Internal and external barriers, along with optimistic/pessimistic cognitive style, were found to influence career decision-making self-efficacy (in males, but not in females). There was no evidence that internal and external barriers interacted to influence career decision-making self-efficacy. Finally, it was found that career decision-making self-efficacy, internal and external barriers, and optimistic/pessimistic cognitive style were able to predict career development attitude (males and females), career development knowledge (females only) and career indecision (males only). Results are discussed in the context of Carver and Scheier’s (1981) control theory.
Career barriers have been described as any factors that thwart the achievement of career goals (Crites, 1969). They have typically been viewed as both internal to the person, such as lack of confidence or low motivation, and external to the person, such as lack of access to education and poverty. Crites (1969) described barriers as either internal conflicts or external frustrations that might impede career development. O’Leary (1974) hypothesised six types of internal barriers and four types of external barriers specific to women’s career development. Farmer (1976) suggested six internal (self-concept) and three external (or environmental) barriers, while Harmon (1977) proposed examining barriers from both a psychological and a sociological perspective. More recently, Swanson and Tokar (1991a) argued that attitudinal (internal), social/interpersonal (external), and interactional barriers (between internal and external) should be considered.

Empirical studies have consistently found that high school and college students perceive a substantial number of career barriers, including ethnic discrimination, gender discrimination, financial problems, family attitudes, perceived lack of ability, lack of fit, lack of interest and lack of educational opportunities (Luzzo, 1993, 1995; McWhirter, 1997; Swanson, Daniels, & Tokar, 1996; Swanson & Tokar, 1991a, 1991b). Gender differences in perceptions of career barriers have been identified. Swanson and Tokar (1991a, 1991b), for example, found that female Euro-American college students perceived gender discrimination and the role conflict of sacrificing career for family as greater barriers than male students, whereas males were more likely to perceive financial issues as greater career impediments. McWhirter (1997) also identified that female Mexican-American and Euro-American high school students anticipated more barriers than males, and were less likely to anticipate ethnic discrimination than their male peers.

Cross-ethnic differences have also been identified. For example, Mexican-American university students cite ethnic discrimination barriers, perceptions of family issues, financial and study skill barriers more frequently than students from most other ethnic backgrounds (Luzzo, 1993). Finally, cross-cultural differences in perceptions of career barriers have been identified. Patton, Creed and
Watson (2002) found that for Australian students, the more non-work barriers perceived the less career planning was engaged in and the less career certainty was experienced, whereas the more work-related barriers perceived the more indecision and lower life satisfaction was experienced. This is in contrast to South African students, where non-work barriers were related to career planning, certainty and confidence, and work-related barriers were related to career planning, certainty, indecision, confidence and life satisfaction.

However, while career barriers have been examined empirically, and have been acknowledged in career development theories (e.g., Crites, 1969), they have been discussed primarily in the context of women’s career development and have not constituted an integral component of mainstream career theories (Luzzo, 1996). It has been argued that Gottfredson’s (1981) developmental theory of occupational aspirations provides one of the more fruitful frameworks from which to examine career-related barriers (Luzzo). There are two salient points from this theory concerning career barriers. First, Gottfredson suggested that when individuals identify and confront their career-related barriers this will lead them to compromise their vocational goals. Luzzo has also suggested that as barriers are recognised, confidence may be affected, and career-related variables other than career goals, such as career decision-making and maturity, might also be compromised in this way. Second, Gottfredson’s theory suggests that it is the interaction between the internal barriers (self-concept) and external barriers (perceived accessibility) that directly influences career-related variables. In sum, this would mean that as an individual became aware that there were barriers to achieving their vocational goals, these goals would need to be re-evaluated, and other career-related tasks might be compromised in a way consistent with the internal (person-related) processes of the individual. In relation to this latter point, Luzzo (1995, 1996) and others (Swanson & Tokar, 1991a, 1991b) have suggested that the perception of career-related barriers need not necessarily be viewed as negative for the individual, and that some individuals may view barriers as challenging rather than defeating.
One internal person-related variable that is likely to influence whether the individual perceives a barrier as being challenging or defeating is their cognitive style. A useful cognitive style to examine in this context is optimism/pessimism, which is a generalised tendency to expect positive outcomes or the belief that “good rather than bad things will happen in a person’s life” (Scheier & Carver, 1993, p. 26). A small number of studies has investigated optimism in the career area. Petrone (2000) found females to be more career mature and to be better prepared to make a career choice than males, but concluded that males endorsed a more developed vocational identity and had higher levels of optimism for the future. Creed, Patton and Bartrum (2002) examined the relationship of optimism and pessimism with the career related variables of career maturity, career decision-making and career goals in a high school sample. These authors found that those students who endorsed higher levels of optimism showed higher levels of career planning and career exploration, were more decided about their career decision and had more career goals. On the other hand, those high in pessimism were found to have lower levels of career decision-making knowledge, were more indecisive and reported lower levels of school achievement. Lastly, Patton, Bartrum and Creed (2002), utilising a large sample of high school students, found support for a career development model in which optimism and career locus of control predicted career planning and career exploration through the variables of job expectations and career goals. In this model, different pathways emerged as being significant for males and female. The findings of these studies suggest that optimism and pessimism might play a functional role in the development of career-related variables, such as maturity and career decision-making.

Lazarus (1991) has referred to optimism/pessimism as an appraisal style as it can influence the way an individual perceives, feels and copes with a situation. For example, an individual with a tendency to believe that positive outcomes will occur is more likely to view external barriers, such as financial demands, as challenging rather than threatening to their achievement of vocational goals. This highlights the importance of personal dispositions (such as optimism/pessimism) as a
cognitive style that can influence an individual’s level of career motivation (e.g., career expectations and goals) and future career-related behaviour. Numerous studies have identified significant associations between career development and cognitive styles in general, such as attributional style and locus of control. Luzzo and Jenkins-Smith (1998), for example, demonstrated that higher levels of career maturity are likely to be associated with a cognitive style that indicates a sense of control and responsibility for career decision-making. Powell and Luzzo (1998) found that a significant positive relationship existed between career maturity and an optimistic thinking style. These findings suggest that cognitive style is a salient factor affecting the career development process.

Current Study

Based on this literature review, the current study aims to investigate the constructs of cognitive style (optimism/pessimism), internal barriers (operationalised in this study as self-esteem), external barriers, and the career-related variables of career decision-making self-efficacy, career maturity and career decision-making. Specifically, it is predicted that the cognitive style of optimism/pessimism will influence the perception of internal and external barriers, and that perceived internal barriers will interact with perceived external barriers and impact on career-related confidence and subsequently affect the career development variables of career maturity and career indecision.

Method

Participants

Participants were 130 Grade 12 students from one school in the south-eastern part of Australia. Their ages ranged from 17.16-19.03 years ($M = 18.08, SD = .42$), with 79 females, 49 males and
two students who did not indicate their gender. There were no significant ethnic groupings at the school, which reflects the broad cultural and ethnic nature of the Australian population. Three levels of socioeconomic status (SES) were calculated based on parental education (Anderson & Vervoorn, 1983, p.172). There were 56% of students with parents having up to 10 years of education, 30% with parents completing 12 years of education, and 15% with parents with tertiary education. On a self-report measure of School Achievement, 17% indicated they typically achieved less than a Satisfactory level at school (the four categories were < SA, SA, SA-HA, and HA-HA, where SA = Satisfactory, HA = High Achievement and VHA = Very High Achievement), 37% indicated they typically achieved SA, 30% achieved between SA-HA, and 17% achieved between HA-VHA.

**Instruments**

*Perceived Barriers.* Students completed a modified Perceived Barriers Scale (PBS) developed by Howell, Frese, and Sollie (1977). This scale asks respondents to indicate, “How much effect do you think each of the following things will have in keeping you from getting the job you desire?” for nine barriers of “lack of interest by your parents, the school you are attending, not enough money to attend college or university, your not wanting to move, national shortage of ‘good’ jobs, local shortage of ‘good’ jobs, no college or university nearby, lack of information about existing opportunities, and personal intelligence”. The scale was modified to make it suitable for use with Australian students (e.g., “technical school and college” was replaced with “college and university” and the item indicating race as a barrier was deleted because of the homogenous nature of the participants). Further, the item indicating personal intelligence as a barrier was not included as we were wanting a measure of external barriers only. Students were asked to indicate the level of effect on a 4-item response format with markers of “no effect/a little effect/some effect/very much
effect”. This gave a possible range of 8-32, with higher scores indicating more perceived barriers. The internal reliability coefficient for the eight items was .84.

Career Maturity. The Australian version of the Career Development Inventory (CDI-A; Lokan, 1984) was used to measure career maturity. The CDI-A has 72 items and is designed for students in Years 8-12. It measures several aspects of career development, including career planning orientation, awareness and use of resources, knowledge of the career development process, knowledge of the world of work, and knowledge and use of decision making principles. Four subscales and two composite scales can be calculated. The two composite scales are reported in this study. These are Career Development Attitude (CDA; calculated by summing the 20-item subscale of Career Planning and the 16-item subscale of Career Exploration) and Career Development Knowledge (CDK; calculated by summing the 24-item subscale of World of Work Information and the 12-item subscale of Career Decision Making). Higher scores indicate more career maturity. Internal reliability coefficients reported by Lokan were in the range .73-.89 for an age 14 sample, and .65-.88 for a Year 11 sample, which represent similar reliabilities to those reported for the American inventory (Pinkney & Bozik, 1994). Internal reliability co-efficients for this sample were .90 (CDA) and .86 (CDK). Construct validity has been indicated by appropriate age differences in scores, with older students scoring higher than younger students did. Inter-scale correlations were between .50 and .70, and a factor analysis yielded the expected two factors based on CDK and CDA (Lokan).

Career Decision-Making. The 19-item Career Decision Scale (CDS; Osipow, 1987) consists of two subscales, the 16-item CDS-Indecision scale (CDS-Ind) that provides a measure of career indecision, and the 2-item CDS-Certainty scale that indicates the degree of certainty that the respondent feels in having made a career decision. There is also one open-ended question that allows respondents to put their concerns in their own words. Only the Indecision scale (CDS-Ind) is reported in this study. Participants respond to items by indicating on a 4-point scale whether the
item is “not at all like me” through to “exactly like me”. Lower scores indicate more indecision. Internal reliability coefficients have been reported in the .80 range (Hartman et al., 1983). For the present study, this was .90 for CDS-Ind. Concurrent (Hartman & Hartman, 1982), construct (Hartman et al., 1983) and predictive validity (Hartman, Fuqua, Blum & Hartman, 1985) have all been adequately demonstrated.

**Career Decision-making Self-efficacy.** The 25-item short version of the Career Decision-making Self-efficacy scale (CDMSE; Betz, Klein, & Taylor, 1996a) was used to measure confidence regarding ability to make career-oriented decisions. A sample item is, “How confident are you that you could determine what your ideal job would be?”. Participants rated their level of confidence on a 5-point scale, with end-points of “no confidence at all” to “complete confidence”. Higher scores indicate more career-related confidence. Betz et al. (1996b) reported adequate validity for the scale, and indicated satisfactory internal reliabilities ranging from .73 to .83. The internal reliability for the current sample was .95.

**Self-Esteem.** The 10-item Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) was used to provide a measure of global evaluation of self-worth. The RSE is the most widely used instrument for the measure of this construct (Blascovich & Tomaka, 1991). Participants are asked to respond by rating how strongly they agree with each statement on a 4-point scale, using anchors of “strongly agree” to “strongly disagree”. Answers were scored from 1-4, giving a possible range of 10-40, with higher scores indicating higher self-esteem. The internal reliability coefficient for this sample was .87.

**Optimism/pessimism.** The Life Orientation Test – Revised (LOT-R; Scheier, Carver, & Bridges, 1994) was used to measure this cognitive style. The LOT-R is a 10-item scale, with four filler items and six scale items. Creed, Patton and Bartrum (2002) have shown that with high school students, two subscales of Optimism (LOT-Opt) and Pessimism (LOT-Pes) should be utilised. The LOT-Opt subscale is calculated by totalling the three positively worded items, and the LOT-Pes is
calculated by totalling the three negatively worded items. Respondents were asked to indicate their level of agreement with each of the items on a 4-point scale, using the response format, “strongly agree” to “strongly disagree”. This gives a possible range of 3-12 for each subscale, with higher scores indicating more optimism and more pessimism respectively. Creed et al. report internal reliability coefficients for these subscales of .62 (Optimism) and .78 (Pessimism). In the present study, these were .50 and .80.

Procedure

The data reported here constitute one aspect of a larger study examining the correlates of career maturity for high school age students (Patton & Creed, 2001). Classroom teachers, who had been provided with instructions regarding the administration protocol, administered the survey forms to all students in Grades 12 who attended on the day.

Results

Summary data are presented in Table 1, and bivariate correlations are presented in Table 2. Independent sample t-tests demonstrated that males differed significantly from females on levels of Career Development Attitude (CDI-A: CDA) and Career Indecision (CDS-Ind). Separate analyses found that males did not differ from females on age or socio-economic level (see Table 1). From Table 2, perceived barriers for males were correlated with Career Development Attitude (CDI-A: CDA), such that those who reported more barriers engaged in more career planning and exploration. For females, barriers were correlated with Career Development Attitude (CDI-A:CDA), Career Indecision (CDS-I), Self-esteem (RSE) and Pessimism (LOT-P), such that those with more barriers engaged in more career planning and exploration, were less indecisive, had lower self-esteem and more pessimism.
Table 1

Sample Size, Means and Standard Deviations for Males, Females and Total Participants for Perceived Barriers and Career and Well-being related variables. N = 130.

| Variables   | Total         | Males         |  |
|-------------|---------------|---------------|
|             | n | M  | SD | n | M  | SD | n | M  | SD | t |
| PBS         | 130 | 19.44 | 5.22 | 49 | 19.48 | 4.83 | 79 | 19.43 | 5.49 | -0.03 |
| CDI-A (CDA) | 129 | 106.80 | 17.49 | 49 | 102.67 | 19.12 | 78 | 109.45 | 16.20 | 2.14* |
| CDI-A (CDK) | 130 | 49.87 | 17.40 | 49 | 47.14 | 15.82 | 79 | 51.43 | 18.40 | 1.35 |
| CDS-I       | 125 | 48.40 | 9.33 | 47 | 45.22 | 8.91 | 78 | 50.32 | 9.11 | 3.06** |
| CDMSE       | 116 | 84.15 | 14.97 | 41 | 84.16 | 16.18 | 75 | 84.15 | 14.38 | -0.00 |
| RSE         | 122 | 28.36 | 4.92 | 45 | 29.22 | 6.08 | 77 | 27.86 | 4.06 | -1.49 |
| LOT-Opt     | 118 | 8.32 | 1.32 | 43 | 8.48 | 1.47 | 75 | 8.23 | 1.26 | -0.99 |
| LOT-Pes     | 118 | 7.67 | 1.85 | 43 | 7.56 | 2.04 | 75 | 7.73 | 1.75 | 0.49 |

Note 1: PBS = Perceived Barriers Scale; CDI-A (CDA) = Career Development Attitude subscale of the Career Development Inventory – Australia; CDI-A (CDK) = Career Development Knowledge subscale of CDI-A; CDS-Ind = Indecision subscale of CDS; CDMSE = Career Decision-making Self-efficacy Scale; RSE = Rosenberg Self-esteem Scale; LOT-Opt = Optimism subscale of Life Orientations Test; LOT-Pes = Pessimism subscale of the LOT-R.

Note 2: n¹ = not all participants completed all scales satisfactorily

Note 3: t² = indicates difference between males and females

Note 4: * = p < .05, ** = p < .01.
Table 2
Bivariate Correlations for Males and Females for Perceived Barriers and Career and Well-being related variables. N = 130.

<table>
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Note 1: Correlations for males appear above the diagonal; females are below.
Note 2: See Table 1 for legend. SES = Socio-economic level.
Note 3: * = p < .05, ** = p < .01, *** = p < .001
Antecedents and Consequences of Perceived Career Barriers

The first part of the model tested in this study is based on the proposition that cognitive style (optimism/pessimism) will influence the perception of internal (self-esteem) and external career-related barriers. The second part of the model is based on the proposition that perceived internal and external barriers will impact on career-related confidence and subsequently affect career development variables. Path analyses were used to test a series of models based on the associations reported in Table 2 and represented in Figures 1-3. Path analysis does not set out to prove causality among a set of variables but it is able to investigate how tenable a particular model is. It is the analysis of choice in this particular study as the sample sizes did not allow for more complex analyses such as structural equation modeling. The path analyses involved performing separate multiple regression equations for each endogenous variable in the models and calculating direct and indirect effects for the predictor variables on the career development variables. The standardised regression coefficients of the predictor variables and their endogenous (dependent) variables are displayed as path coefficients (beta weights). Analyses were conducted separately for males, females and total samples. Table 3 presents the direct, indirect and total effects for each predictor variable for each endogenous variable for the models in Figures 1-3.

Gottfredson’s (1981) theory proposed that one’s internal barriers (operationalised in this study as self-esteem; RSE) would interact with external barriers (PBS, in this study) to influence career development variables. Prior to the path analysis, CDMSE, RSE, PBS and an RSE x PBS interaction term was regressed on CDI-A (CDA), CDI-A (CDK) and CDS-Ind, for males and females separately and for the total sample. RSE, PBS and an RSE x PBS interaction term was then regressed on CDMSE. As no interaction terms in any of these multiple regression analyses made a significant individual contribution to predicting CDMSE, CDI-A (CDA), CDI-A (CDK) or CDS-Ind no interaction term was included in the path analyses.
Table 3

Direct and indirect effects for predicting Career Attitudes (CDI-A: CDA), Career Knowledge (CDI-A: CDK) and Career Indecision (CDS: Ind) using Optimism (LOT-Opt), Pessimism (LOT-Pes), Self-esteem (RSE), Barriers (PBS), and Self-efficacy (CDMSE).

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Note: See Table 1 for legend; * = $p < .05$; ** = $p < .01$; *** = $p < .001$
Figure 1: Direct and indirect effects of Optimism (LOT-Opt), Pessimism (LOT-Pes), Self-esteem (RSE), Barriers (PBS), and Self-efficacy (CDMSE) on Career Attitudes (CDI-A: CDA). Standardised regression coefficients are presented without brackets, bivariate correlations are presented within brackets. Results for females are presented in normal type; results for males are presented in bold type.
Figure 2: Direct and indirect effects of Optimism (LOT-Opt), Pessimism (LOT-Pes), Self-esteem (RSE), Barriers (PBS), and Self-efficacy (CDMSE) on Career Knowledge (CDI-A: CDK). Standardised regression coefficients are presented without brackets, bivariate correlations are presented within brackets. Results for females are presented in normal type; results for males are presented in bold type.
Figure 3: Direct and indirect effects of Optimism (LOT-Opt), Pessimism (LOT-Pes), Self-esteem (RSE), Barriers (PBS), and Self-efficacy (CDMSE) on Career Indecision (CDS-Ind). Standardised regression coefficients are presented without brackets, bivariate correlations are presented within brackets. Results for females are presented in normal type; results for males are presented in bold type.
Predicting Internal and External Barriers

It was hypothesised that optimism/pessimism would predict internal (self-esteem; RSE) and external (PBS) barriers, which in turn would influence the level of career related decision-making. For the total sample of males and females combined, optimism and pessimism accounted for a significant 28% of the variance in self-esteem. Both optimism and pessimism emerged as significant individual predictors, with total effects on self-esteem of .36 and -.31 respectively. When females and males were examined separately, significant amounts of variance were predicted for each (females = 20%; males = 42%), however, pessimism emerged as the only significant individual predictor for females (beta = -.36), whereas optimism was the only one for males (beta = .53). For perceived external barriers, using the total sample of males and females combined, optimism and pessimism were unable to predict significant amounts of variance. A similar result was found for males. But when females were examined, optimism and pessimism predicted a significant 9% of the variance in barriers, and pessimism emerged as a significant individual predictor (beta = .28). These models suggest that, for females, pessimism predicts both self-esteem and perceived external barriers. However, for males, optimism predicts self-esteem, but neither optimism nor pessimism predicts perceived external barriers.

Predicting CDMSE

For the total sample of females and males combined, optimism (LOT-Opt), pessimism (LOT-Pes), self-esteem (RSE) and perceived barriers (PBS) accounted for a significant 18% of the variance in career decision-making self-efficacy (CDMSE). Self-esteem emerged as the only significant individual predictor. Self-esteem also had the strongest total effect (direct + indirect; beta = .36) on career decision-making self-efficacy, followed by optimism (beta = .20). A somewhat different picture emerges when females and males were examined separately. For females, the independent variables accounted for a non-significant 3% of the variance in career
decision-making self-efficacy, and no variable emerged as a significant individual predictor. For males, optimism, pessimism, self-esteem and perceived barriers accounted for a significant 61% of the variance in career decision-making self-efficacy. Self-esteem was a significant individual predictor, and also had the strongest total effect (beta = .61), followed by optimism (beta = .32) and pessimism (beta = -.29). These models depict that, for males, career decision-making self-efficacy was primarily determined directly by levels of self-esteem, and indirectly by levels of optimism, whereas for females, levels of self-esteem, perceived barriers, optimism and pessimism have no significant effect.

**Predicting Career Maturity and Career Indecision**

The three career development variables of career development attitude (CDI-A: CDA), career development knowledge (CDI-A: CDK) and career indecision (CDS-Ind) were examined as dependent variables. For career development attitude, when the total sample of females and males was utilised, career decision-making self-efficacy (CDMSE), self-esteem (RSE), perceived barriers (PBS), optimism (LOT-Opt) and pessimism (LOT-Pes) were able to predict a significant 23% of the variance. Career decision-making self-efficacy (beta = .30) and perceived barriers (beta = .30) were significant individual predictors. The strongest total effects were displayed by career barriers (beta = .33), followed by career decision-making self-efficacy (beta = .30). When females were examined separately, the independent variables were able to predict a significant 20% of the variance, with career barriers (beta = .34) and career decision-making self-efficacy (beta = .24) emerging as significant individual predictors. Barriers (.34) and self-efficacy (.24) displayed the strongest total effects. For males, a significant 39% of the variance was accounted for. Career decision-making self-efficacy emerged as the only significant individual predictor. However, self-esteem (.57) self-efficacy (.42) and barriers (.30) displayed the strongest total effects. These findings demonstrate different predictors and predictor pathways for males and females in
predicting career development attitude. These models suggest that barriers and career decision-making self-efficacy are the strongest predictors for females, whereas self-esteem, career decision-making self-efficacy and barriers are important for males.

For career development knowledge, when the total sample of females and males was utilised, career decision-making self-efficacy, self-esteem, perceived barriers, optimism and pessimism were not able to predict a significant proportion of the variance. This was also the case when males were examined separately. When females were examined separately, the independent variables were able to predict a significant 18% of the variance, with pessimism (beta = -.34) and optimism (beta = -.25) emerging as significant individual predictors. Pessimism (-.38) and optimism (-.22) also displayed the strongest total effects. These models suggest that pessimism and optimism play a role, albeit modest, in predicting career development knowledge.

For career indecision, when the total sample of females and males was utilised, career decision-making self-efficacy, self-esteem, perceived barriers, optimism and pessimism were able to predict a significant 17% of the variance. Career decision-making self-efficacy (beta = .31) and optimism (beta = -.20) were significant individual predictors. The strongest total effects were displayed by career decision-making self-efficacy (.31), followed by pessimism (-.22). When females were examined separately, the independent variables were not able to significantly predict career indecision. For males, a significant 44% of the variance was accounted for. Career decision-making self-efficacy (beta = .71) emerged as a strong significant individual predictor. Career decision-making self-efficacy (.71), optimism (.33), self-esteem (.32) and pessimism (.31) displayed the strongest total effects. These findings also demonstrate different predictors and predictor pathways for males and females. These models suggest that career decision-making self-efficacy, and to a lesser extent optimism, self-esteem and pessimism, are predictors of career indecision for males, whereas no variables in the model were important for females.
Discussion

*Predicting Internal and External Barriers*

It was hypothesised that the cognitive style of optimism/pessimism would be influential in determining the perception of internal and external barriers. When the total sample was examined, optimism and pessimism were able to predict internal barriers, with higher levels of optimism and lower levels of pessimism related to higher levels of self-esteem. For females, low levels of pessimism were more strongly associated with high levels of self-esteem, whereas for males, high levels of optimism were associated with self-esteem. A different picture emerged for external barriers. Optimism and pessimism were not able to predict perceived external barriers for the total sample or when males were examined separately. Optimism and pessimism did predict external barriers for females, with pessimism emerging as a significant individual predictor, such that the more pessimistic the cognitive style the more barriers perceived. These results suggest that pessimism is important in predicting both self-esteem and perceived barriers in young females, and that optimism predicts self-esteem, but neither optimism nor pessimism predicts perceived barriers in young males. The findings suggest that it would be helpful to encourage a more optimistic cognitive style in young women, about themselves and about their perceived external barriers.

In relation to career decision-making self-efficacy, optimism, pessimism, self-esteem and perceived barriers were significant predictors when the total sample was examined. Self-esteem emerged as the sole significant individual predictor, with higher levels of self-esteem associated with more decision-making self-efficacy. This was the picture that emerged for young males, with self-esteem strongly and directly influencing career decision-making self-efficacy, and optimism influencing self-efficacy indirectly. These variables did not predict career decision-making self-efficacy in females. Young males are likely to have high levels of career decision-making self-
efficacy when their self-esteem and optimism are high, whereas for females, it would appear that
variables other than those examined in the present study influence their decision-making efficacy.

The three career development variables of career development attitude, career development
knowledge and career indecision (all of which were found to be largely uncorrelated) were
examined in the present study. In relation to career development attitude, career decision-making
self-efficacy, self-esteem, perceived barriers, optimism and pessimism did emerge as significant
predictors. For females, career decision-making self-efficacy and perceived barriers were
important, whereas for males, career decision-making self-efficacy, perceived barriers and self-
esteee were important predictors. For females, career development attitude was associated with
high levels of decision-making confidence and more perceived barriers. For males, career
development attitude was also associated with higher self-esteem. For career development
knowledge, pessimism and optimism emerged as modest predictors for females only. The variables
examined in this study were not able to predict career knowledge for males. Thus for females,
career knowledge was primarily associated with low levels of pessimism. Lastly, for career
indecision, career decision-making self-efficacy, optimism, self-esteem and pessimism emerged as
predictors for males, whereas the variables in this study were not able to predict career indecision
in females. For males, low levels of career indecision were associated with high levels of career
decision-making self-efficacy, high levels of self-esteem, more optimism and less pessimism.

It can be said from this study that the cognitive style of optimism/pessimism is influential in
determining the perception of internal barriers (females and males) and external barriers (females
only). Internal and external barriers, along with optimistic/pessimistic cognitive style, were found
to influence career decision-making self-efficacy (in males, but not in females). There was no
evidence that internal and external barriers interacted to influence career decision-making self-
efficacy. Lastly, and in turn, career decision-making self-efficacy, internal and external barriers,
and optimistic/pessimistic cognitive style were able to predict career development attitude (males and females), career development knowledge (females only) and career indecision (males only).

Carver and Scheier (1981) proposed that optimism/pessimism performs a self-regulatory function within control theory, and postulated that as long as an individual’s expectancies of eventual success are sufficiently favourable they are likely to remain engaged in efforts to reach desired goals despite adversities that may arise. In regard to career barriers, higher levels of optimism and lower levels of pessimism were related to higher levels of self-esteem (for males and females), and higher levels of pessimism were associated with more perceived barriers (for females), as would be expected by control theory. In a similar manner, and consistent with control theory, high levels of optimism were associated with more career decision-making self-efficacy (for males). Optimism and pessimism were also able to contribute to the prediction of the three career development variables examined. These influences were largely indirect, except in the case of career development knowledge, when low levels of pessimism had the strongest effect. For these variables, it can be said that the more optimism the stronger career development attitude (in males and females), the less pessimism for females and the more pessimism for males the higher career development knowledge reported, and lastly, the more pessimism for girls and the less pessimism for boys the more career indecision is evident. Control theory would predict that students with high levels of optimism and low levels of pessimism would perceive fewer career barriers, be more confidence in their career decision-making, have higher levels of career attitude (such as career planning and exploration), be more career knowledgeable, and be less career indecisive. That is, they would be more likely to foresee more favourable outcomes occurring. Support for this proposition is reflected in the current findings.

Previous research has identified differences in the career development of males and females (Luzzo, 1995; Paton & Creed, 2001; Petrone, 2000). The current study clearly identified different predictors and pathways for males and females concerning internal and external barriers, career-
decision-making self-efficacy, career development attitude, career development knowledge and career indecision. For example, self-esteem, perceived barriers, optimism and pessimism were able to predict career decision-making self-efficacy for males but not for females, with self-esteem and optimism emerging as important predictors for males. This suggests that male students who perceive fewer internal barriers and are optimistic are more likely to have higher decision-making confidence, whereas confidence for females was not associated with these variables. It can be concluded that, for females, high levels of pessimism are associated with perceived barriers and career indecision, low levels of pessimism are associated with more career knowledge, and high levels of optimism are associated with stronger career attitudes. For males, high levels of pessimism are associated with more career knowledge, low levels of pessimism are associated with more perceived barriers, career decision-making confidence and career indecision, and high levels of optimism are associated with career decision-making self-efficacy.

In relation to career barriers, optimism and pessimism were able to predict internal (males and females) and external barriers (females only). This implies that cognitive style effects perceptions of career-related barriers. Internal barriers made a significant contribution to the prediction of career decision-making self-efficacy (in males, but not females). External barriers were important in predicting career development attitude (males and females), while internal barriers were important contributors to career development attitude (males only) and career indecision (males only). In relation to internal barriers (self-esteem), the effect was the higher the self-esteem the more career decision-making confidence and the higher the career development attitude (career planning and exploration). The evidence here is that high self-esteem is important for career development. In relation to perceived external barriers, the more barriers perceived the stronger the career development attitude (i.e., the more career planning and exploration). This implies that perception of external career barriers is important to career development, but that in the case of career development attitude, the perception of career barriers is associated with more career
planning and exploration. Gottfredson (1981) suggested that internal and external barriers were likely to interact to reduce levels of career-related confidence. However, no interaction effect for internal and external barriers was found in this study. There was evidence that the more internal barriers perceived (i.e., the lower the self-esteem) the less career-related confidence was evident in males but not in females. In contrast to this, there was a weak effect for males where the more external barriers perceived the higher was the career-related confidence. So, where internal barriers might erode career-related confidence, perception of external barriers might operate to increase confidence. A similar effect occurred for the career development variables. The more external barriers perceived the more career planning and exploration was engaged in (males and females), whereas for internal barriers the higher the self-esteem the more career planning and exploration (for males). This means that self-esteem, or the perception of fewer internal barriers, is important for career development, but that the perception of external barriers may not lower confidence or reduce career-related activities. This is consistent with recent studies (Luzzo, 1995, 1996; Swanson & Tokar, 1991) that have suggested that perceptions of barriers might motivate increased career-related activity. The evidence from the present study is also that cognitive style (in this case pessimism/optimism) is influential, first, in the perception of barriers, and second, in how these barriers influence other career variables.

**Conclusion**

These findings suggest that understanding cognitive style, and how this influences students’ perceptions of internal and external constraints, is important in understanding the process involved in career development. Optimism/pessimism plays a key role in the perception of internal and external barriers, and through these variables influences important career development variables. Understanding the wider range of factors that influence these career development variables will lead to more helpful interventions for students. Intervention programs to date have tended to concentrate on information in relation to the self and the world of work, and the development of
decision-making skills. The present study has highlighted the need for a more learner-centred focus in such programs whereby cognitive style and perception of barriers are addressed.

Some limitations have been identified in the body of the paper. Several others that need to be addressed in future research are worthy of mention. There is clearly a need for a better operationalisation and measure for career barriers. Patton, Creed and Watson (2002) have identified two aspects of external barriers for high school students: work and non-work related barriers. Cognitive style might impact on these different types of barriers in different ways, and the different types of barriers might have different impacts on career development variables. Other cognitive style variables also need to be investigated. Locus of control has been investigated in this manner (e.g., Patton, Bartrum, & Creed, 2002), but other styles, including broader personality styles, need also to be examined. The results also need to be replicated on a larger more representative sample. This is particularly the case for the males as the outcomes here were based on a smaller sample than was available for the females.
References


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