



Children's career development: A research review from a learning perspective

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Abstract

Recent advances in career theory have resulted in widespread acceptance of the lifespan perspective on development. However, a review of research and practice conducted during 2001 revealed that little attention has been paid to the career development of children (Whiston & Brecheisen, 2002). In response to calls for a greater concentration on this important stage in the lifespan, the present article uses learning as a unifying theme to structure a research review of career development in children. This theme highlights the need to understand more holistically the influences on and the process of career development learning in children. The learning framework accommodates the dynamic and interactional nature of career development and suggests the need for dual focus research that examines the *what* and the *how* of children's career development learning.

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1. Introduction

Learning is a holistic process involving thinking, feeling, perceiving, and behaving as individuals relate with past experience and ongoing interaction with the world throughout their lives (Patton & McMahon, 1999). The notion of learning as an ongoing process throughout life coincides with theoretical views of individuals as active agents and shapers of their careers (e.g., Collin & Watts, 1996; Vondracek, Lerner, & Schulenberg, 1983, 1986). While there is general recognition that a learning process occurs in the career development of children, the interactional nature of this process is more hypothesized about than researched. Thus, Hartung, Porfeli, and Vondracek's (2005) review of children's career development notes that research has been largely focused on what children know about the world-of-work rather than on how they learn this information. Indeed, most research reviews conclude that career development in childhood is a complex interplay among attributes, behavior and the environment (e.g., Gysbers, 1996) without reporting on such research.

We structured the present review around the theme of learning. As a unifying theme, learning sits comfortably with dynamic conceptualizations of career that have been influenced by the constructivist worldview (e.g., Miller-Tiedeman, 1988; Young, Valach, & Collin, 1996). Indeed learning is not a new concept in career. Since the days of Parsons (1909), learning has been implicit in career theory (Patton & McMahon, 1999) as exploring self and the world of work underpinned Parsons' conceptualization of career decision making. Learning has continued to be the basis for trait-and-factor theories and person–environment fit theories through processes such as adjustment (e.g., Dawis, 1996; Dawis & Lofquist, 1976, 1984) and successive approximations (Holland, 1992). Further, a number of career theories are based on learning theory (e.g., Lent, Brown, & Hackett, 1996; Mitchell & Krumboltz, 1996) and Super (1990) suggested that learning theory is the cement that binds together the segments of his archway of career determinants.

Super (1990) proposed that individuals learn through interaction with the environment and his segmental model draws attention to many sources of learning such as family, school, society, peer group, community, and the labor market, sources which are also evident in other career theories (e.g., Lent, Brown, & Hackett, 1994, 1996; Mitchell & Krumboltz, 1996; Patton & McMahon, 1999; Roe, 1956; Roe & Lunneborg, 1990; Vondracek, Lerner, & Schulenberg, 1986; Young et al., 1996). Not only do these theories suggest that career development is a dynamic interactive learning process, they also describe what is learned in terms of critical constructs such as self-concept (Gottfredson, 1981, 1996; Super, 1990); career maturity (Super, 1990), self-efficacy (Lent et al., 1994), and values (Brown, 1996).

As learning is perceived in all of these theories as an ongoing process throughout the lifespan of an individual, it is the learning process itself rather than a specific theory that seems relevant across the career development lifespan. Moreover, learning suggests the dynamic nature of career as a process of development over time. Thus, it is proposed to use learning as a unifying theme for this review of research on children's career development. The theme lends itself to a structure based on two questions that specifically focus on *how* children learn and *what* children learn about the

world of work and their future in it. Given the dynamic nature of learning these two sections may interact. Influences on learning may affect the process of learning and the process of learning may itself be an influence on learning. This demonstrates the recursive nature of learning in career development.

The present review of children's career development research examines 76 articles including 7 previous reviews (Dorr & Lesser, 1980; Gysbers, 1996; Hartung et al., 2005; Helwig, 1998b; Hoffman & McDaniels, 1991; Tracey, 2001; Wahl & Blackhurst, 2000) within a meta-framework of learning as structured by the two questions posed earlier. Included in the present review are articles spanning the years 1971 to 2003 that have researched the career development of children 13 years of age and under.

2. How do children learn about the world of work and their future in it?

While there is general acceptance that career development learning occurs throughout childhood, previous research has failed to sufficiently examine the nature of such learning. Tracey (2001) identified this research gap in children's career development and argued that the critical research question is about "the mechanisms by which children's thinking about interests shifts from childhood structures to those of adulthood" (p. 90). To date, this question has mainly been addressed by research that has focused on substantiating theory, examining age or school grade differences over time, or describing the implementation of career education interventions.

There is a body of research that has attempted to validate *theories* that describe the career development of children. Specifically, research has examined the process of learning that various theories hypothesize underlies children's career development. Wahl and Blackhurst (2000) have reviewed this research and concluded that findings are mixed. Earlier theories such as that of Ginzberg, Ginsburg, Axelrad, and Herma (1951) have been challenged by research that has found children's occupational aspirations more stable over time than the theory proposes (Trice, Hughes, Odom, Woods, & McClellan, 1995; Wahl & Blackhurst, 2000). Other research has attempted to validate various theoretical perspectives of the learning process in the career development of children. For instance, there has been substantiation for Havighurst's (1972) belief in the critical role of parents in children's career development (Trice et al., 1995), some support for Roe's (1957) theory of the influence of family relations (Trice et al., 1995), and considerable support for Gottfredson's (1981) theory of occupational aspirations (Wahl & Blackhurst, 2000). With regards to Gottfredson's theory, recent research has offered some support for her concepts of sex-typing in the career development of children (Tracey, 2001), the influence of social valuation on children's occupational aspirations (Helwig, 2001), the decreasing role of fantasy and the increasing realism in occupational aspirations as children develop (Helwig, 1998c, 2001).

While *age* has been reviewed in the following section on what children learn, it is included here in conjunction with *grade* as reflective of the process of career development learning over time. Dorr and Lesser's (1980) review noted that occupational

knowledge increased with age and school grade, that occupational roles play an increasing part in the definition of self as children develop, but that earlier cultural and gender occupational stereotypes do not seem to change over time. The latter finding is qualified by research that indicates that, while boys remain occupationally gender stereotyped, girls may choose more opposite-sex occupations with increasing school grade (Helwig, 1998c).

Several studies have examined how children's occupational knowledge changes over time. Children's knowledge of occupations seems to become more comprehensive and detailed as they become older (Edwards, Nafziger, & Holland, 1974; McCallion & Trew, 2000; Seligman, Weinstock, & Heflin, 1991; Seligman, Weinstock, & Owings, 1988). Goldstein and Oldham's (1979) seminal research suggested that elementary school children's thinking shifts from egocentric and concrete to more abstract and objective perceptions about occupations. Walls (2000) established that children's conceptions of six dimensions of work improved with increasing school grade. How children describe occupations may also change over time, with elementary school children more likely to describe occupations in terms of their activities and behaviors, and older children more likely to focus on interests, aptitudes and abilities (Borgen & Young, 1982). Some studies demonstrate how critical the career development of children is on their subsequent career development. In particular, studies by Trice (1991a) and Trice and McClellan (1993) have pointed to the predictive value of early occupational aspirations.

The role of *career education* in promoting the career development learning of children has been discussed (e.g., Caspi, Wright, Moffitt, & Silva, 1998; Goldstein & Oldham, 1979; Jalongo, 1989) yet seldom researched. Models that could prompt career development learning in elementary school children have been proposed (e.g., Hoffman & McDaniels, 1991) yet the impact of such interventions has seldom been reported. In one of the few studies to date, Gillies, McMahon, and Carroll (1998) reported that sixth grade Australian children developed a better understanding of occupational information sources, more interest in career information and a better perception of the relationship of school to work as a result of career education activities. McMahon, Gillies, and Carroll (1999) found that children's career development was enhanced as a result of career education lessons, with Australian children showing an increased ability to list occupations and to identify a favorite occupation. Other research has shown that career intervention or the exposure to non-traditional workers can lead to a reduction in occupational gender stereotyping in elementary school children (Bailey & Nihlen, 1990; Bigler & Liben, 1990).

What has been examined in terms of how children learn are the influences with which they interact. Thus, how children learn may be seen as a recursive process between children and a broad range of influences from their social and environmental contexts. These influences are discussed below.

The influence of *society* on the career development of children has been more implied than researched. For instance, several studies have compared children's occupational aspirations over different decades and concluded that occupational gender stereotyping has declined in recent decades (Bobo, Hildreth, & Durodoye, 1998; Gregg & Dobson, 1980; Helwig, 1998b; Zuckerman & Sayre, 1982). This decline in

the gender stereotyping of occupations is viewed as a reflection of children's learning of changing social norms. Other research also suggests that evidence of gender differences in the occupational aspirations of boys and girls is a consequence of social learning, or what Francis (1998) refers to as "gender category maintenance" (p. 42), that is, the maintenance of socially defined gender roles.

Several authors have suggested that changes in societal norms may also explain why girls evidence a greater range of occupations (Helwig, 1998b) and more non-traditional occupations (Bobo et al., 1998; Hughes, Martinek, & Fitzgerald, 1985) than boys. There is also evidence that indicates that the influence of society on children's career development, particularly their occupational aspirations, may increase over time. Tremaine, Schau, and Busch (1982) found that, while preschoolers do not gender stereotype occupations, elementary school children do. Their conclusion that the younger the child the less the knowledge of cultural stereotypes and of society's expectations is supported by Jordan (1976). Similar findings are reported by Liben, Bigler, and Krogh (2001) who found that rating occupations perceived as culturally masculine as being of higher status increased with age. Trice and Rush (1995), on the other hand, found that children as young as four years of age were significantly more likely to choose occupations typical for their gender.

The pervasive influence of society on children's learning of occupational gender stereotypes may prove difficult to change. Bailey and Nihlen (1990) found, for instance, that while exposure to non-traditional occupational role models led to less gender stereotyping on a social dimension (i.e., in children's attribution of occupational gender role stereotypes to others), there was little change on a psychological dimension (i.e., in children's personal occupational preferences).

Related to societal influence on children's career development learning is the *socio-economic environment* in which children live. The present research review indicates that the socio-economic status of samples is seldom specified and its influence seldom researched. Some studies explicitly examine the possible influence of socio-economic status on career development learning, while others have implied that socio-economic status may explain their research findings. In an earlier study, Brook, Whiteman, Peisach, and Deutsch (1974) found that socio-economic status was related both to parents' occupational aspirations for first and fifth grade children as well as to the children's own occupational aspirations. A more recent study by Cook et al. (1996) found that inner-city boys evidenced a greater gap between their occupational aspirations and their occupational expectations and that they had lower occupational aspirations than other boys. Similarly, Weinger (1998) found that children living in poverty have restricted occupational aspirations and occupational knowledge. Conversely, Jordan (1976) found that seven-year-old children from higher socio-economic status backgrounds were more informed about a variety of occupational categories. The influence of socio-economic status on children's occupational aspirations may be mediated by other factors. For instance, Bandura, Barbaranelli, Caprara, and Pastorelli (2001) have found that socio-economic status had no direct influence on Italian children's occupational aspirations and occupational efficacy. These authors found that parental beliefs and parental aspirations mediated the influence of socio-economic status.

Research on *ethnic differences* in children's occupational aspirations has hypothesized about the influence of socio-economic status. Bobo et al. (1998) suggested that the wider range of occupational choices indicated by Anglo as opposed to African-American and Hispanic children may be explained by their exposure to a greater range of occupations that are inherent in higher socio-economic status families. Phipps (1995), in finding that the occupational aspirations of African-American children were on a higher status level compared to White and Hispanic children, suggested that children of lower socio-economic status are more likely to be motivated by role models or by economic factors.

Little research has been conducted on the influence of *media* such as television on children's career development. This is despite wide recognition that mass media is likely to be a primary source of children's early occupational learning (Dorr & Lesser, 1980; McMahon, Carroll, & Gillies, 2001; Morton, Kryk, Awender, & Diubaldo, 1997). That television is a source of occupational learning is evident in research conducted decades apart. For instance, O'Bryant and Corder-Bolz (1978) established that children as young as five years of age learn to gender stereotype occupations based on the gender of a television role model, that children learn about occupations from the television content that they view, and that girls will modify their occupational aspirations as a result of viewing particular occupational roles portraying women.

More recently, Wright et al. (1995) established that elementary school children have learned to differentiate between real occupations and those depicted on television. Children perceived occupations portrayed on television as more glamorous and more stereotypical, amongst other perceptions, while real life occupations were perceived as requiring greater individual effort. The latter findings appear to be supported by McMahon et al. (2001) who found that, while the media was a major source of information for the children in their study, only a small number of children indicated that the media would influence them toward or away from an occupation.

The *school* as an influential source of learning in the career development of children is broadly recognized but narrowly researched. Several authors call for the implementation of school programs/career education (Gregg & Dobson, 1980; Hoffman & McDaniels, 1991; Jordan, 1976; McMahon et al., 2001) as a source of learning realistic occupational information, challenging occupational gender stereotypes, and educating parents in their role in children's career development (Wahl & Blackhurst, 2000). While some studies report on specific career education interventions, others have examined the influence of school on children's career development. An Australian study of year six children (McMahon et al., 2001) found that school was one of a number of influences on career information but that it was not a major influence.

A related study found that most children were able to identify school learning that related to occupations that interest them as well as occupations nominated by the researchers (McMahon, Gillies, & Carroll, 2000). Of particular interest in this study is the fact that career development learning was drawn from the whole school experience of the children. For example, while most of the learning experiences nominated by the children related to subjects, activities and topics covered in the academic curriculum, the children also nominated learning experiences derived from extra-curricula activities and their general participation in school. Contrary to the latter findings,

Johnson (2000) found that senior elementary school children demonstrated a limited understanding of how their school academic activities related to the future world of work. There was also little understanding as to how their favorite school subject was relevant to their occupational aspiration.

Several authors have recognized that children's *home environment* may influence their career development learning (Gregg & Dobson, 1980; Morton et al., 1997; Wahl & Blackhurst, 2000). Family constellation (e.g., two or single parent families) has been found to influence children's occupational aspirations (Trice et al., 1995), although gender differences in occupational aspirations may not be related to several family background variables such as maternal employment (Sandberg, Ehrhardt, Ince, & Meyer-Bahlburg, 1991).

Parents as a possible influence in children's career development learning has been a focus of some research, with Birk and Blimline (1984) concluding that it is no longer necessary to debate the primary influential role of parents. Such a statement may be premature given the limited research that has ensued in more recent years. Research indicates that parents are active agents in influencing their children's career development (Young & Friesen, 1992). For example, children choose occupational levels that match their parents' expectations (Helwig, 1998c) or that correspond with the traditionality of the mother's occupation (Barak-Azy et al., 1991). Identification with parents' occupations is particularly strong among young and rural elementary school children (Trice, 1991b; Trice et al., 1995). How parental occupation influences children's career development is not clear (see Section 3).

3. What do children learn about the world of work and their future in it?

What children learn about the world of work is influenced by various intrinsic factors. Research on intrinsic influences on children's career development learning is sparse with several studies failing to clearly define their constructs. Further, critical theoretical constructs such as self-concept (Gottfredson, 1981, 1996; Super, 1990); career maturity (Super, 1990), self-efficacy (Lent et al., 1994), and values (Brown, 1996) have seldom been researched in relation to children. An earlier study by Holland (1981) on sixth grade elementary children found that the *self-concept* was correlated positively with career development. Recently, Oakland, Stafford, Horton, and Glutting (2001) found that *temperament* related to the vocational interests of children between the ages of 8 and 10 years. This relationship becomes more differentiated with age and differs according to gender and race/ethnicity. Pulkkinen's (2001) research on Finnish children has established that higher occupational aspiration was a consequence of constructive behavior, control of emotions, and social activity. Lower occupational aspiration was a consequence of aggressive behavior in boys and low emotional control, anxiety and passivity in girls. *Locus of control* may also relate to children's occupational aspirations. Trice and Gilbert (1990) found that children with more external locus of control expressed fewer occupational aspirations or mainly fantasy aspirations, as compared to children with greater internal locus of control who evidenced more realistic occupational aspirations.

Several studies have examined children's *occupational knowledge and perceptions* as an intrinsic influence on their career development learning. For instance, [Jacobs \(1996\)](#) survey of preschool teachers, parents and children found that children often do not know what their parents do in their occupations, despite both teachers and parents believing that it is important that they do. Children's knowledge of their parents' occupations may require a differential understanding. For instance, age may be a factor in such knowledge, with children of 10 years perceiving themselves as more knowledgeable about their parents' occupations than they were at 5 years of age ([Seligman et al., 1991](#)). The gender of the parent may also be a factor in children's perceptions and knowledge of occupations. [Trice and Knapp \(1992\)](#), for instance, found at two grade levels and for both boys and girls a greater similarity between children's occupational aspirations and their mothers' rather than their fathers' occupations. They suggest that children have learned more about their mothers' than their fathers' occupations. This may be attributed, in part, to children's perceptions of their fathers' influence on their career development learning as decreasing and their mothers' influence increasing ([Seligman et al., 1991](#)).

The influence of parental occupation on children's occupational aspirations may be influenced by children's perceptions of the parents' occupations. For instance, [Trice and Tillapaugh \(1991\)](#) established that children are more likely to aspire towards their parents' occupations if they perceive their parents as satisfied in such occupations. Similarly, children who perceive their family orientation as positive are more likely to obtain occupational information about their parents' work and to receive greater parental encouragement ([Seligman et al., 1991](#)).

The predominant topic in children's career research has been *occupational gender stereotyping* (e.g., [Helwig, 1998a](#); [Sellers, Satcher, & Comas, 1999](#); [Tracey, 2001](#)). [Wahl and Blackhurst \(2000\)](#) concluded that three decades of research in this area has not resulted in any conclusive findings and that influences on the learning of occupational gender stereotypes have received little attention. Their assessment is supported by earlier observations that research on occupational gender stereotyping has been fragmented and contradictory ([Tremaine et al., 1982](#)). The latter authors believe that the diversity of the findings reflects the insufficient attention paid to the complexity of factors that may influence the learning of occupational gender stereotyping. In general, greater differentiation in the age range of samples and greater specificity concerning the aspects of occupational gender stereotyping researched need to be considered. Several intrinsic influences on occupational gender stereotyping have been identified including age, gender, and self-esteem.

There seems to be general consensus that children of all *ages* have learned occupational gender stereotypes. Children of kindergartner age and younger demonstrate occupational gender stereotypes ([Harris & Satter, 1981](#); [Hartung et al., 2005](#); [Riley, 1981](#); [Stroeher, 1994](#); [Vondracek & Kirchner, 1974](#)). Similarly, there is considerable research demonstrating occupational gender stereotyping in children across all elementary grades ([Franken, 1983](#); [Liben et al., 2001](#); [Looft, 1971](#); [Sellers et al., 1999](#); [Siegel, 1973](#); [Spare & Dahmen, 1984](#); [Stockard & McGee, 1990](#)). This occupational gender stereotyping has been established, amongst others, on Australian ([Gillies et al., 1998](#); [McMahon et al., 1999](#); [McMahon & Patton, 1997](#)), British ([Francis, 1996](#)) and

Kenyan (Arap-Maritim, 1984) children. While occupational gender stereotyping has been established across a wide age range, there is research that indicates that it may lessen over time (Dorr & Lesser, 1980; Franken, 1983; McMahon & Patton, 1997; Sandberg et al., 1991; Wigfield, Battle, Keller, & Eccles, 2001).

Further, *gender* is an intrinsic influence on occupational gender stereotyping. For example, previous studies found that occupational gender stereotyping may be learned more by boys than girls (Dorr & Lesser, 1980; Franken, 1983; Liben et al., 2001; Sandberg et al., 1991; White & Ouellette, 1980; Wigfield et al., 2001). Some research has explored specific aspects of the learning related to occupational gender stereotyping such as the range, type and educational training level of occupations that children aspire to. The range of occupations has been found to be larger and more varied for boys (e.g., Arap-Maritim, 1984; Miller & Stanford, 1987), while other research has found this to be the case for girls (e.g., Wigfield et al., 2001).

The type of occupation aspired to is another aspect of occupational gender stereotyping. Here too gender is an intrinsic influence. Boys have been found to aspire to more physically active, concrete and practical occupations, while girls aspire to more people-related, artistic and data-based occupations (Helwig, 1998a; Phipps, 1995). Recent research on Italian children (Bandura et al., 2001) has also established that boys evidence greater confidence in aspiring to scientific and technological occupations, while girls evidence more confidence in aspiring to occupations in education, health and the social services. There may also be gender differences in the educational level of the occupations that children aspire to. Phipps (1995), for instance, established that elementary school boys aspired to occupations requiring high school education, while girls aspired to occupations requiring a tertiary educational level of training.

While gender has been established as an intrinsic influence on children's career development learning in its own right, it has also been researched in relation to other intrinsic influences. For example, Sandberg et al. (1991) found that *gender* differences in occupational aspirations were not related to personal variable differences in elementary school children, although the nature of such variables is not clearly defined. Hughes et al. (1985), on the other hand, found that children's *self-esteem* was significantly related to occupational gender stereotyping. Boys with higher self-esteem demonstrated greater occupational gender stereotyping, while girls with higher self-esteem reflected more non-traditional occupational choices.

While this review has been structured in two sections, the recursiveness between influences on and processes of career development learning remains an under-researched area. For instance, earlier reported studies that established society as an extrinsic influence in the decline in occupational gender stereotyping in children (Bobo et al., 1998; Gregg & Dobson, 1980; Helwig, 1998b; Zuckerman & Sayre, 1982) also found that this decline was not reflected at a personal level. Such research indicates that both boys' and girls' personal occupational aspirations remained gender stereotyped (Gregg & Dobson, 1980; Zuckerman & Sayre, 1982). This seems to reflect a differential application of the process of career development learning.

4. Discussion

The present review adopted a learning framework within which to review the research literature of the last three decades on the career development of children. It has identified several issues related to children's career development research that require further discussion from both methodological and conceptual viewpoints. Methodologies will always be varied in their design. However, the diversity of methodologies evident in research on children's career development, when coupled with the limited research to date, makes a cohesive, comprehensive understanding of children's career development learning difficult to achieve. In addition, there are a wide variety of measures used in the research of children's career development. How occupations are classified and the choice of occupations offered to children can differ substantively from study to study.

The diversity of conceptual and definitional issues (Hartung et al., 2005) limits our understanding of children's career development learning. For instance, research identifies the career behaviors of children but does not explain the process by which they are learned. Even exploratory-descriptive research has largely focused on identifying rather than exploring the potential dynamics of variables. Thus, most studies establish differences in children's career behavior (e.g., in occupational gender stereotyping) as a consequence of career development learning but fail to examine the process through which such differences develop. Hartung et al. (2005) conclude in their review that there is a need to change perceptions of children's career development from a passive to an interactive process in which children engage with the world-of-work.

The lack of focus on process of most research reflects its cross-sectional nature, that is, it focuses on *where* children are at particular developmental ages but not *how* they got there nor *how* they are changing. Put differently, the focus of research is on identifying behavior but not on researching the recursive nature of influences and processes on such behavior. It tends to describe the status quo but fails to describe how this learned status can be changed or what processes need to be implemented. As such, research on intrinsic influences on the career development learning of children may reflect the current status of theories of childhood career development. These theories have been criticized for largely describing what children's occupational aspirations are but not where they originate nor how they change over time (Trice & Tillapaugh, 1991).

A conceptual strength of the present review is that it has highlighted the need to understand more holistically the influences on and processes of career development learning in children. As illustrated earlier in the discussion, research on children's career development is fragmented. Nevertheless, previous reviews have recommended that future research needs to focus more on process issues (e.g., Tracey, 2001; Wahl & Blackhurst, 2000) and on the complex interplay of external and internal factors involved in career development learning (Gysbers, 1996).

The learning framework of the present review accommodates the dynamic and interactional nature of career development and allows for a meaningful grouping of what has been a disparate body of research. Further, it illustrates how little research

has focused on the process of career development learning. In so doing, the need for *dual focus* research that examines not only the *what* but also the *how* of children's career development learning is critical. Related to this is a need for methodologies that would allow for such a dual focus. Specifically, greater consistency is called for in construct definitions, measurement instruments, and research designs. The learning perspective of the present review provides a way forward for future research as it suggests the holistic nature of research that is needed to paint a clearer picture of children's career development learning.

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