Under the Magnifying Glass: Perception of Contextual Factors Influencing the Career Decision-Making Process for Indo-Canadian Young Women Entering the Sciences

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Abstract

This study uses the Social Cognitive Career Theory (Lent, Brown, Hackett,1994) as the theoretical framework to examine the various contextual factors that influence the career decision-making process for Indo-Canadian young women entering the sciences at the post-secondary level. Yin's (2003) qualitative descriptive case study approach was used to explore the various contexts that influenced their career plans. Results indicated that perception of contexts such as family, peers, and the ethnic community influenced self-efficacy beliefs. Implications for career counsellors are discussed.

While education, training and employment are prominent concerns in Canada, very little research focuses on the future career roles of children of immigrants (children who were born and brought up in their parents' host country) although they form an increasingly important segment of Canadian society (Betz, 2001; Maxwell, Maxwell, & Krugly-Smolska, 1996; Rumbaut, 1994). In particular, understanding the experience of South Asian children of immigrants, has not received a lot of attention in terms of life-career development research. These youth face intergenerational conflict, limited South Asian role models in various fields, and more traditional gender role socialization which could have an impact on their life-career development (Foner, 1997; Ghuman, 1994; Hanada, 2003; Toohey, Kishor, & Beynon, 1998).

Intergenerational Conflict in Families: A Clash of Values

According to the Statistics Canada classification, South Asian includes students who identify themselves as having a Sikh, Muslim, or Hindu cultural background (Statistics Canada, 2001). Since many South Asians have settled in Canada, the experience of raising their children in a culture that does not represent their own base of experience has posed these families with some challenges. Researchers consider the challenges described by parents and children of immigrants, as intergenerational conflict (O'Connell, 2000; Ghuman, 1997; Khan, 1979; Segal, 1991; Wakil, Siddique, & Wakil, 1981). The researchers conceptualized the problem as an adolescent experience of a clash of values between home and mainstream culture and exposure to two sets of competing cultural practices (Goodnow, Miller, & Kessel, 1995). Culture conflict is experienced by children of immigrants when they are caught between the cultural expectations of their parents, and the social expectations of the mainstream culture (Watson, 1977). It is important to examine whether South Asian children of immigrants consider intergenerational conflict as a potential barrier to career decision-making, and, if so, how they manage tensions and arrive at making decisions.

Acculturation: Process of Ethnic Identity Formation

An alternative perspective presented in the literature suggests that children of immigrants manage the tensions of living between two different cultures through a process of acculturation (Goodnow, Miller, & Kessel, 1995). Acculturation is based on the premise that new cultural traits that are adopted by the individual represent a new combination of two different value systems (Porter & Wahsington, 1993). Feminist collections, such as Our feet Walk the Sky (Women of South East Asian Descent Collective, 1993), depicts children of immigrants living between two cultures and value systems as a difficult and multifaceted experience. It is important to understand the process of socialization and the cultural variation of values that exist within different families and how children of immigrants manage any dissonance that they might experience in career decision making (Das Gupta, 1997; Handa, 2003; Hedge, 1998; Phinney, 2006; Sue, Ivey & Pederson, 1996).

Socialization Practices in South Asian Families

The literature on career counseling suggests that parents have a strong influence on the career choices of their children. Research indicates that South Asian adolescent girls negotiated educational and career options within the family context and did not view the process as an individual process (Bassit, 1996; Siann & Knox, 1992; Gibson, 1998). Segal's (1991) study outlined the issues faced by both the parents and their adolescent children in the family context. The study demonstrated that for South Asian students, career choices reflected their parents' cultural model of success, internalized as part of the South Asian students' own career identity (Schneider & Lee, 1990). The cultural model of success was perceived by the students' as a psychological burden characterized by guilt and frustration if they were unable to meet parental expectations (Saran, 1985). South Asian students may experience unique external performance pressure in various contexts of development which may also hinder their perception of career choices available (Cheryan & Boden-

hausen, 2000). The above challenges contribute to a complex set of factors influencing the career-life plans made by children of immigrants in South Asian families. In addition, consideration of gender role expectations in the family is deserving of particular attention, even though there is limited research available.

Gender Role Expectations in South Asian Families

South Asian immigrant parental gender expectations regarding children's choice of occupation was studied by Agarwal (1991). She concluded that South Asian parents for over half her sample wanted their children, both male and female, to be physicians. Agarwal also noted that the parent-child relationship is far more authoritarian in South Asian families than in American families. These parental expectations have many implications for children of these immigrants, particularly women. As she interviewed second-generation young women, concerns became apparent regarding the management of dual role expectations of being a dutiful daughter in the family as well as an assertive and excellent student within the educational context. Exploring gender role expectations within the family is an important step to understanding the educational experiences of Indo-Canadian young women. This study seeks to describe the experiences of South Asian young women who are children of immigrants and how they formulate their career life-plans to enter the sciences. The primary researcher was especially interested in their experiences with different contexts of learning (family, school, and peers) and their perceptions of self-efficacy as they approached career decision making.

Methodology

Theoretical Framework Selected for Guiding the Research: Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994)

Due to cultural differences in perception of one's environment, researchers have recognized the importance of applying theoretical frameworks that account for context with different cultural groups (Mau & Bikos, 2000; McWhirter, 1997). More

recently, Lent, Brown, and Hackett (2000) have proposed a social cognitive career theory (SCCT) based on Bandura's (1986) work that incorporated an understanding of the person, context, and behaviour to understand career development for different minority groups. The goal of SCCT was to explicate the mechanism through which academic and career interests develop, how people make career choices, and how personal agency affects career outcomes. Lent, Brown, & Hackett (2000) stipulated propositions in relation to SCCT that provide future researchers with the opportunity to engage in theory building efforts (Lent, Brown, & Hackett, 1994). As such, the SCCT was used to examine Indo-Canadian women's career decision-making process to enter academic fields in the sciences at the post-secondary level. This qualitative study will explore five propositions stipulated within the SCCT, in relation to Indo-Canadian women's experience in choosing a career in the sciences, which will be discussed further in the results section.

Qualitative Method Selected: Descriptive Case Study Approach

Yin (2003) developed a qualitative descriptive case study approach, which was selected and used for the purpose of this study, to examine what factors contribute to the career decision-making process among Indo-Canadian young women entering science programs at the post-secondary level. A descriptive case study requires the researcher to begin with a theory in the literature that has established propositions. The social cognitive career theory (SCCT) had established a set of propositions (Lent, Brown, & Hackett, 1994) that could be derived which covers the scope of the proposed study and was selected as the conceptual theoretical framework. The descriptive theoretic patterns of the study can then be cross compared to the propositions embedded within SCCT. The purpose of this methodology is to see if the patterns that emerge within the data set fit the SCCT theoretical propositions under consideration, and to explore the usefulness of the theory to understand the career life-planning process of an ethnic minority group (Yin, 2003).

Central Research Questions

The central research questions that guided the research were:

1. What role does socialization in the dominant society, family, ethnic community, and educational settings play in formulating educational and career interests in the sciences for Indo-Canadian young women?

2. How does self-efficacy contribute to their vocational interest development in science?

3. How does viewing role models in relevant educational and career activities contribute to their experience of self-efficacy in selecting a career in science?

Selection of Participants

Twelve Indo-Canadian young women who were children of immigrants, from a large metropolitan area in Manitoba, constituted the sample for this study. It has been suggested that the ideal range of participants for a qualitative study would be between 8 to 15 participants (Juntunen, Barraclough, Bronek, Seibel, Winrow, & Morin, 2001; Kvale, 1996). A criterion case selection strategy was used in the selection of the twelve participants and refers to choosing cases because of their similarity to central characteristics of interest to the researcher (LeCompte & Schensul, 1999). The criteria established in the selection of participants to create a relatively homogenous sample included the following:

1. The participant self-identified as being Indo-Canadian which included having a Sikh, Muslim, or a Hindu cultural background.

2. Each Indo-Canadian young woman would have completed her kindergarten to grade 12 schooling in Canada, which would identify the individual as being a second-generation Indo-Canadian (Zhou, 1997).

3. The participants resided in Manitoba and seven were pursuing undergraduate programs in science. An additional five participants were enrolled in professional programs in science such as pharmacy, dentistry, and medicine.

4. Participants were between twenty and twenty-five years of age, which

is considered young adulthood (Arnett, 2000).

Training Research Assistants

The research team was multi-disciplinary and consisted of three female research assistants who were all trained to be independent coders of the data. All three research assistants were trained by the primary researcher and were exposed to reading material on a range of qualitative research methods, and in particular, the descriptive case study approach. Topics covered with all assistants included: ethics and standards of qualitative research with minority groups, qualitative data analysis techniques and how to be an independent coder of data, issues related to entering the field, and data analysis strategies such as the creation of concept maps. The researcher would meet with the assistants on a regular basis to allow time to debrief how they felt after reading a transcript, to review concept maps, and review coding of transcripts.

Use of a Concept Map with Research Assistants: Mid Point Analysis

A concept map encouraged the research assistants to start with a nucleus idea of the participants experiences on the centre of the page, and radiating outward from the centre, key experiences within the transcript that influenced the career development of the participant would be documented (Amundson, 2002). The creation of a concept map for each transcript served as a mid point of analysis for the research assistants to explore the participants career decision-making process from the participants perspective, and to recognize when their own interpretations of the participants experiences would complement or diverge in the analysis of the data. New meanings created in the analysis by the research assistants were identified and debriefed with the primary researcher.

Data Collection

The research was conducted in a five-phase process: (1) participants were given a non-standardized qualitative questionnaire which was a modified version of Julien's questionnaire (1997) entitled The Search for Career-Related Information by Adolescents. (2) Partici-

pants engaged in a one and a half hour to two hour semi structured interview. The interview questions were open-ended and explored participants' thoughts and reactions in the following areas: (a) perception of vocational interest development, (b) self-efficacy appraisals of making career decisions, (c) perception of various social contexts that impact on career choice such as family, school, and friendships, and (d) view of role models in the field. At the end of the interview, the researcher invited open-ended descriptions of issues pertinent to the participant that might not have been covered in the interview. (3) Transcription of the first interview and a cross comparison between questionnaire and the transcript were conducted by the primary researcher to identify gaps. Systematic case study notes were maintained by the researcher documenting observations after each interview. (4) Transcription of the first interview was sent to the participant to review the accuracy of statements. (5) A second 30-45 minute interview was scheduled with the participant to clarify ideas that arose from reviewing the initial transcript which was also audio taped, transcribed, and reviewed by participants.

Data Analysis

Data analysis of the interviews consisted of four phases: In the first phase, the primary researcher created a list of domains of analysis which were based on the predefined concepts found within the social cognitive career theory (Lent, Brown, & Hackett, 2000), and consisted off: a) contextual affordance, b) structure of opportunity, c) learning experiences, d) self-efficacy beliefs, e) outcome expectations, f) interest development, g) choice goals, and h) choice actions. In the second phase, the primary researcher and research assistants independently did a line-by-line analysis of each transcript which consisted of categorizing all interview statements into particular domains and created a concept map. In the third phase, the primary researcher did a cross comparison of transcripts to assess percentage of agreement between the interview statements that were sorted into the most appropriate domain (Kvale, 1996). Percentage of agreement ranged from

80% to 89% for the analysis of each transcript. The final phase consisted of a cross-case analysis examining the concept maps, data within a particular domain across participants, and representing the patterns found across cases in written form. The participants requested that the quotes selected would be used by more than one participant in order to protect their identity. Consequently, the depiction of their experiences provided of the young women's interview statements was limited.

Validity and Reliability Procedures

Validity of the data is based on Yin's (2003) three criteria. First, *internal validity* was achieved through triangulation of different sources of data, having a selective sample, and having the participants check the accuracy of their interview statements. Second, *reliability* was attained through consistent data analysis procedures, comparison of concept maps of each interview, and by establishing two inter rater reliability checks per participant interview. Third, *external validity* was established through analytical generalization of the results of multiple cases to theory (Yin, 2003). As such, within the results section, further discussion of selected propositions of the social cognitive career theory will be examined in relation to the research findings.

Results

Proposition #1 An individual's occupational or academic interests are reflective of his or her concurrent self-efficacy beliefs and outcome expectations (Lent et al., 1994; 2000).

For ten participants, interest in science formulated when individuals were exposed to the health field at an early age (needing braces, glasses, inhaler, or exposure to a doctor in a hospital setting due to a childhood injury) or to the health concerns of their immediate family members. In all cases, the participants early interest and academic strength in science were reinforced actively by parents and ethnic community members. The data for all participants also support Lent's sub-proposition that interests will stabilize for an individual by late adolescence or early adulthood. By completion of high school all partici-

pants recognized that they "wanted" to be in the sciences. Five participants had a crystallized career choice goal within the professional field that they were clearly aiming towards while they were in high school. The other participants discovered their specific career choice in science in the first three years of university.

The participants anticipated positive academic outcomes and had future expectations of creating balance of life roles through their career role verses opportunistic motives for pursuing careers in the science. In all cases, the young women developed future expectations that viewed their career as "separate" from other domains of their lives that could bring satisfaction, status, and a degree of balance of future life roles based on the employment options available for women in various scientific fields. They discussed how they hoped they could find balance between work, marriage, future parenting roles, and the ability to incorporate outside interests back into their lives that needed to be "put on hold" as they pursued their science degree (such as engagement in travel, art, or creative writing), but were not specific in how they would do so.

The perception held by eleven participants was that there were a limited number of career options to consider in the sciences and that each option (dentistry, pharmacy, optometry, and medicine) was highly competitive and difficult to gain admission into. Six of the young women had their first preference of a program that they wished to pursue, but also had "back up plans" in case their first choice did not come through. These individuals reflected a "wait and see" approach to dealing with a competitive field and maintained self-confidence in their academic pursuits by increasing the amount of options available to them and attributed entry into a program based on "fate". In the other six cases, participants with crystallized goals, focused on one professional program to apply for and decided to "take their chances" and let "fate" determine the end result. These participants found that by concentrating on one goal they were able to establish more "focus" and maintain their level of self-confidence.

Proposition #2 An individual's occupational interests also are influenced by his or her occupationally relevant abilities, but this relation is mediated by one's self-efficacy beliefs (Lent et al., 1994; 2000)

Eight of the young women defined themselves in high school as being a relatively "strong" student in both the arts and science/mathematics courses. Despite having the ability to persist in the arts, they chose not to do so, as they had limited exposure to the various careers that they could pursue with an Arts degree and were unsure of their future prospects. For these eight participants, "exploration and discovery" of new interest areas was an important factor within their high school experiences and was affiliated with "establishing their own identity". They felt that the teachers that they also encountered within various courses during the high school level became important individuals that they still maintained contact with. These teachers exposed them to different ways of viewing the world and provided them with various opportunities within the school context to develop their self-confidence. Two out the eight participants decided to pursue a degree in arts in university, but decided to switch to the sciences in there second year of their program due to viewing the field as limited in terms of career options. After a time delay, these participants found that when they started to repeatedly do well academically with scientific courses, they were able to generate a new interest in the sciences, which sustained their motivation to continue with their academic program in the sciences. The participants who were academically strong in the arts and sciences, felt confident that they could find ways to complement their science degrees with integrating various aspects of the arts within their program. For example, dentistry and optometry were perceived as being a good "mix of the arts and science" as it not only required a scientific background but also required an "eye for detail, the ability to see beauty in various tasks, and the use of fine motor skills". Many participants also felt that by taking an undergraduate degree with a major or minor in psychology, was a manner in which they could "mix the science with the arts". Even though the university program defined psychology as a scientific discipline, the participants still perceived psychology as being more affiliated with the arts. Consequently, they felt that an option was provided for them to "combine science and arts" within their pursuit of a science degree. Also, for participants interested in pharmacy, dentistry, and medicine, it was perceived as a good "mix of the sciences with meaningful relationships with patients" as the value for creating supportive relationships would need to be enacted in any of those career roles.

Proposition #3 Self-efficacy beliefs derive from performance accomplishments, vicarious learning, social persuasion, and physiological reactions (emotional arousal) in relation to particular educational and occupationally relevant activities (Lent et al., 1994; 2000).

Success achieved under conditions of challenge appears to be more strongly related to self-efficacy than success achieved under limited difficulty (Lent, 2000). The young women who felt that the sciences and mathematics were their strongest subjects derived enjoyment in the problem solving process of dealing with challenging academic scientific material. In university, all participants communicated that at one phase of their university education they desired to take easier courses to help increase their grade point average, but that it was not personally fulfilling. It became apparent that participants eventually desired taking "challenging and meaningful" courses as it helped them to sustain interest in the field. In regard to their ability to know that they would do well in the professional field, all participants believed that they had the capacity to do so, based on objective assessment of their grades. For five participants who were already enrolled in professional programs in the sciences, their sense of accomplishment was derived from striving to be a "good" professional in their field and was no longer based on grade attainment.

In regard to social persuasion, similar to Lent's sub-proposition that individuals value their own self appraisals over other direct feedback, all participants stated that they valued "encouragement and feedback" regarding their performance from people who were working in the field as a complement to

supporting their own self-appraisals. If feedback was given that was contrary to how they perceived themselves, they would make their own assessment and consider their stage of professional development, commitment of the supervisor to their learning, and quality of supervision in relation to meeting academic objectives.

In relation to task performance, the sense of self-efficacy was enhanced for all the participants when they felt "focused" and could set "realistic measures" for themselves regarding how to assess their academic performance in the field. They were able to maintain their sense of personal "endurance" when they could acknowledge their own sense of accomplishment attained under difficult academic conditions. The difficult conditions of their academic program in the sciences consisted of having to contend with long days, and the physical stamina needed to accomplish studying, attending courses along with the completion of labs, within their academic program. The young women tended to stay motivated and persist in science when they could see that what they were studying was relevant to their personal values which included: helping and improving the health conditions of others, accomplishing challenging tasks, wanting to understand how things work, appreciating the art to be found in science, making personal use of their abilities, being admired and respected for their academic selection by their family members and peers, and feeling that their degree would make them more employable.

Proposition #4 Outcome expectations are generated through direct and vicarious experiences with educational and occupationally relevant activities (Lent et al., 1994; 2000).

Lent proposed that being exposed to role models and learning vicariously through them would have an impact on one's sense of self-efficacy. Six participants defined role models by referring to their older siblings who were pursuing a career in the sciences. Academic advice would be given by their siblings as to how to structure their academic program and strengthen their academic profile. Older siblings would also provide emotional support and help them

manage dealing with a competitive educational climate. For the remaining six participants who were the eldest in their family, felt they needed to "set an example" and be a role model to their younger siblings. These participants sought out support and learned vicariously from peers who were a year or two senior to them and who were aiming to enter or had already gained admission into professional programs in the sciences, to help them with academic advice.

Proposition #5 Contextual affordance would indirectly affect a person's career decision-making process and choice of occupation (Lent et al., 2000).

Contextual affordance consists of the participants indirect perception of social forces and determines if they have a positive, neutral, or a negative influence over the individual (Lent et al., 2000). All the young women demonstrated what Lent proposes in his theory. Those aspects that they defined as social forces that indirectly influenced their career development, are discussed below.

All the young women perceived that certain values embedded within Canadian society would be reflected in the workplace. Since they lived in a multicultural society, the young women believed that "respect for diversity" and "equality for women" would be reflected in the world of work. They felt that they would be considered more employable due to their gender as they recognized that there was a need for more women in various scientific professions. Three participants reported that they anticipated experiencing difficulty due to their gender in working in a male dominated field based on hearing their older siblings share their experiences. The remaining nine participants did not feel that they would encounter difficulty in the workplace based on gender differences or ethnicity and believed that the policies in the workplace protected them from discriminatory practices.

The family structure served as a socializing force in the participants lives. First, parents emphasized the value of "being educated" and encouraged their daughters to establish themselves within society, which the young women also valued. Parents also had "strong prefer-

ences" and thought that it was more valuable for women to enter male dominated careers in science than to enter the arts, because science represented a more "stable" career choice and held more "prestige". The young women adopted these values by their parents and were also intrinsically motivated to take more science courses as they "wanted to be in the sciences". In all cases, what they desired for themselves took precedence over what was expected of them by their family members.

The young women felt that their fathers were a strong influence and encouraged them to enter the sciences and held the same level of expectations for their sons or other daughters in the family unit. Fathers were perceived as instrumentally supportive and would help the young women make career plans and consider financial aspects of education. Participants whose parents did not have a university background would eventually trust their daughters in making their own educational and career decisions as they could see that their daughters were committed to "completing what they had started" in the sciences. The participants internalized their parents belief that they had the capacity to accomplish their goals.

Mothers were seen by the majority of the participants as primarily emotionally supportive. They would provide participants with knowledge as to how to approach interpersonal difficulties in relation with peers and provide encouragement to participants when they would question their own ability to gain admission into challenging professional programs. The participants also emphasized that their mothers were supportive of their career choice and wanted their daughters to be in a position in which they were "independent". However, the young women also acknowledged that their mothers were concerned about ensuring that they would get married by their late 20's.

The ethnic community was a socializing force as it held certain norms in common with parents. For example, male dominated fields were encouraged for women to pursue because they were deemed more "stable" and "prestigious". The general view was that reasons for women to pursue a career had less to do with fulfilling personal satis-

faction and more to do with not needing to "rely" on a partner. Marriage was still considered a primary goal upon completion of a degree. However, if the individual wanted to pursue a professional science program, the delay in marriage was perceived as acceptable because it would represent attaining a more stable position in society and would make them more "marketable". The young women mirrored the concerns of the ethnic community and the values of their parents for meeting the "timeline" of entry into a professional program. They questioned whether they would be able to meet their "timeline" and felt pressured to sort out how and when to integrate marriage, entry and completion of a professional academic program, and potentially having children within a timely manner as they were concerned with being established by their late twenties.

The educational environment acted as a socialization force. As they progressed from senior high, to college and university, the participants obtained a clearer conception of their role as a student and what it means to study within a "competitive environment". The young women all developed their own personal code of ethics as to how they would interact with peers who they would be potentially competing with. They devised strategies such as not discussing grades with peers or extended family members to avoid the "social comparison" that could ensue and learned how to keep things "separate" between socializing with peers and discussion of academic competition. However, academic support would be given to close friends and was seen as an enactment of their personal values to "help others in need". Academic help and advice was generally sought out and given with peers who were not directly within their own cohort to avoid a conflict of interest. Peer relationships that did develop within the same cohort were characterized as an emotional support, as participants would study alongside their peers and provide motivation to one another. The participants also mentioned that they would try to "block out" the difficulties that peers would have trying to gain entry into a professional program and concentrate on the successful stories of their peers and their own personal

goals. Values enacted within the family for academic planning within a "timely" manner were enacted by their peer group and strategies were passed on from one cohort to the next. Within their peer group, they valued and maintained long term relationships and defined their friendships as the context in which they personally "grew". The participants also agreed that by knowing other Indo-Canadian peers within the university context that it enabled them to understand more about their cultural identity, and that it was helpful to see the variety of Indo-Canadian family relationships that could exist and felt "fortunate" for having parents that were supportive of them. It was also noted in their educational experiences that their peers held the belief that if a person was strong in the sciences that it was "inevitable" that one would enter the field and that discussion and questioning of personal satisfaction of a life-style choice would be attributed to delayed gratification after becoming established in ones profession. Peers also held the belief that women needed to "establish" themselves in a career and that women could enter any field in the sciences and no barriers existed.

Careers in the sciences were determined by social messages based within the world of work. Many young women expressed an interest in dentistry, pharmacy, and optometry as these fields would not require as much time to complete and would not require as much on call work as would be expected in the medical field. Being able to achieve balance in future life roles became an important aspect of their career decision-making process. Three participants were deeply committed to viewing medicine as a career choice, fully understanding the life style implications of entering the field, and felt confident that they could manage the professional obligations and personal life roles connected to marriage and having children. However, specific strategies as to how to create the balance were not identified. Non-traditional careers within the sciences were considered by two participants and included aiming to be a professor and engaging in scientific research. However, support for their career choice by family members was limited because few individuals within

the ethnic community pursued this route and there was a lack of information of future career prospects.

The perception of teachers, professors and practicum supervisors were internalized by the participants and acted as a strong socializing force if the individual giving the feedback demonstrated concern for their well being and had known the participant over a long period of time. The participants who maintained long term relationships with their teachers appreciated the supportive messages but recognized that the social messages differed from what they experienced within their family unit. Central messages from teachers included "enjoy the journey", "take your time", "keep yourself open to new experiences" and 'try new things" which were diametrically opposed to messages found within the family unit which focused on the avoidance of "wasting time", importance of "completing what you start", and "work hard now and the reward will follow". Encouragement and feedback from peers, family, and valued teachers helped participants sustain their level of interest and sense of self-efficacy in career related endeavors. At times, participants felt that the social messages were at odds to one another, but sought out feedback from each social world to meet their individual needs at different times of their career decision-making process.

DISCUSSION

Lent's social cognitive career theory (SCCT) (2000) views a person's life-context as having a strong influence in shaping understanding of career interest development and self-efficacy beliefs about work and lifestyle. The overall findings regarding the applicability of using Lent's SCCT (2000) to understand contextual factors in relation to Indo-Canadian young women and their career decision-making process were well supported, while a few areas still need to be explored further.

Salient findings of the study in support of Lent's social cognitive career theory were: (1) Early exposure to science during childhood and adolescence within the family, school, and other settings determined self-efficacy beliefs and outcome expectations, which contributed to formation of interest devel-

opment during late adolescence or early adulthood. (2) The young women demonstrated self-confidence in finding a match between their ability in science and blending it with their additional interest in the arts. They did not view their decision as having to compromise on their personal values within their career choice. In actuality, the participants viewed the *compromise process* in itself as an enactment of their personal values and felt confident with their ability to make decisions. (3) exposure to role models based within the family and learning vicariously through peers had an impact on their sense of self-efficacy. (4) Contextual affordance remained in the background of their experiences. The participants lived within the norms established within each social context. They were still active organizers of their experiences and each participant felt that they could maintain their sense of integrity within each context of development through the enactment of their personal values.

The findings that would need further exploration in relation to Lent's social cognitive career theory were that individual self-efficacy appraisals meant more to an individual than feedback gained from others regarding career performance (Lent et al., 2000). In all cases, evidence supports this proposition. However, it must also be noted that feedback was deemed valuable based on the *quality* of relationship that the participant had with the person. Lent also considered that self-efficacy beliefs derive from performance accomplishments, which was supported by all the participants of this study (Lent et al., 2000). However, it must also be noted that how participants defined a successful accomplishment changed depending on their educational stage of development. Moreover, balancing future life-roles were defined as a future performance accomplishment goal that the participants were striving for.

The research findings have implications for career counsellors when working with Indo-Canadian young women. First, it is important for counsellors to understand the norms of the various contexts that the participant is affiliated with. Second, identifying what constitutes as a supportive relationship, and/or role models within each context, would

be important to explore as it may also have implications for how the counseling relationship unfolds. Third, a counsellor needs to illuminate any differences between norms within different social contexts and inquire how clients contend with competing messages. Fourth, counsellors need to inquire if the client has a future timeline that they may be contending with and if they feel capable of creating a balance of future life-roles for themselves. Fifth, understanding the worldview of the client including perception of fate, enactment of personal values, and development of personal code of ethics within different contexts in relation to self-efficacy beliefs may be important to identify. Finally, exploring the perception of self-efficacy in relation to creating a match between their abilities in science and other interests might help create more options to consider in the sciences and view engagement in the field as meeting their needs on multiple levels.

Certain limitations need to be considered that affect generalizability. The sampling procedure produced a specific group of young women who had strong levels of self-efficacy in the sciences. It is unknown if similar experiences are held by individuals who vary in their sense of self-efficacy appraisals and enrolled in the sciences. The results still have important implications for practice. Indo-Canadian young women require opportunities for self-reflection and career exploration to make informed career decisions at different stages of their education. As students learn about careers within academic domains, they need to be encouraged to envision themselves in the future. Discussion of how career choice impacts on family, peers, and ethnic communities need to be explored with Indo-Canadian young women so that careers are not eliminated based on lack of information or stereotypes of particular fields. Future research could benefit from examining if role models solidify predetermined career plans or if they can also serve to prematurely foreclose consideration of career options. Exploring the various influences that affect how career decisions are made for Indo-Canadian young women will increase understanding of how career counsellors

can facilitate engagement in life-career planning with clients.

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