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Mechanisms of Change in a Group Career Exploration Intervention: The Case of "Bryan"
Mécanismes du changement lors d'une intervention d'exploration de carrière en groupe : le cas de « Bryan »

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ABSTRACT

This article presents the case of one 16-year-old male who failed a career exploration class and then participated in a group intervention designed to increase his motivation to explore. Using a case study method, the authors triangulated video, questionnaire, observational, interview, and artefact data to identify the main themes that emerged for the participant over the course of the intervention. Themes were integrated into a narrative of the participant's process of developing self-determination for career exploration. Overall, the results suggest that interpersonal connection, structured activities, experiential learning, and participant resilience were all central mechanisms that contributed to change.

RÉSUMÉ

Cet article présente le cas d'un jeune homme de 16 ans qui a échoué à un cours d'exploration de carrière et qui a ensuite participé à une intervention de groupe conçue pour accroître sa motivation à explorer. En utilisant la méthode d'étude de cas, les auteures ont cerné par triangulation les données recueillies d'enregistrements vidéos, de questionnaires, d'observation, d'entrevues, et de productions artistiques et écrites du participant pour identifier les grands thèmes qui ont émergé pour le participant pendant la durée de l'intervention. Ces thèmes ont été intégrés dans un récit du processus de développement de l'autodétermination du participant en matière d'exploration de carrière. Dans leur ensemble, les résultats suggèrent que les liens interpersonnels, les activités structurées, l'apprentissage expérientiel, et la résilience du participant se sont tous avérés des mécanismes cruciaux qui ont contribué au changement.

One of the major tasks of adolescence is the exploration of identity and the development of a core sense of self in relation to work (Super, 1994). A central component of this process involves identifying career interests and beginning to make academic and work-related decisions. Although some individuals autonomously engage in this process, others may need support and guidance to effectively and actively explore both self and work (Flum & Blustein, 2000). Youth who do not connect to school and who feel confused about how to explore require support to engage in this process and to see the benefits of exploring. Research has sug-

gested that a lack of exploration can lead to poor decision-making and planning, and a diffuse sense of self (Usinger & Smith, 2010). However, few studies have directly addressed how to facilitate active and autonomous career exploration for youth who are disengaged at school.

The present study reviews one adolescent's process of change as a function of his participation in a group career exploration intervention. It explores the factors and mechanisms that contributed to his change over the course of the intervention. The theoretical framework used to conceptualize this study is an integration of Super's life-span, life-space approach to career development (Super, 1969, 1990) and self-determination theory (Ryan & Deci, 2002). As others have suggested, self-determination may be a crucial factor that contributes to engaged and productive career exploration (Blustein, 2006; Blustein & Flum, 1999; Flum & Blustein, 2000). The literature has only begun to investigate this proposition.

THEORETICAL FRAMEWORK

With his life-span, life-space approach, Super (1990) suggested that one's career develops as a result of growth across a series of stages. Super argued that across ages and developmental stages, individuals occupy a variety of life roles (Super, 1990). Within each developmental stage, individuals cycle through tasks of growth, exploration, establishment, maintenance, and decline, as they work toward the development of a self-concept (Super, 1990). The goal of career development is to solidify a career self-concept, characterized by personal attributes, values, needs, and interests (Super, 1990). A self-concept also comprises the subjective experience of self (Savickas, 2005).

According to Savickas (2002), we create and construct our identities over the course of our lives, and through interactions with others and the environment. Self-concepts are not only internal representations; they also reflect the dynamic relationship between individuals and their social and cultural environments (Savickas, 2005). Career self-concepts are thus the result of exploring identity attributes (e.g., interests, skills) and negotiating their meaning within the context of the social environment. Exploration is the process through which self-concepts are constructed.

Active self-exploration, along with decision-making, self-regulation, competence, readiness, and planning (Creed, Fallon, & Hood, 2009) contribute to career adaptability (Savickas, 1997). Career adaptability refers to the ability to adjust to ongoing personal or environmental changes in the world of work. It has been linked to life satisfaction, empowerment, self-efficacy, and an internal sense of control (Hirschi, 2009). Research has shown that poor adaptability is associated with concern about finances, opportunities, and the capacity to achieve (Creed et al., 2009). Therefore, it is important to develop skills for adapting to occupational and career changes across the lifespan.

We, and others (Flum & Blustein, 2000), suggest that one way for individuals to acquire these skills is to develop self-determination to explore. Self-determination

theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2002) posits that individuals autonomously engage in activities when they feel a personal connection to their behaviour. SDT categorizes motivation along a continuum, across which actions become increasingly self-regulated. At one end is amotivation, which denotes a lack of motivation. When feeling amotivated, individuals fail to engage altogether. They cannot predict the outcomes of their actions, often feel detached, and expend little effort or energy on the activity (Legault, Green-Demers, & Pelletier, 2006). The opposite end of the continuum is characterized by intrinsic motivation, wherein individuals engage in activities for the enjoyment the activity brings (Deci, 1975). Between these two poles exists a range of self-regulatory styles characterized by engaging either to receive a reward or avoid punishment (external regulation), to avoid feelings of shame (introjected regulation), for reasons that are connected to the individual's beliefs (identified regulation), or because the action has been integrated into one's belief system (integrated regulation; Ryan & Deci, 2000).

The central process that promotes self-determined behaviour (i.e., intrinsic motivation, integrated regulation, and identified regulation) is internalization. Internalization is

> the process through which an individual acquires an attitude, belief, or behavioural regulation and progressively transforms it into a personal value, goal, or organization … the developmental process by which a child integrates the demand and values of the socializing environment. (Deci & Ryan, 1985, p. 130)

Research has consistently shown that internalization occurs in contexts where individuals' basic psychological needs for autonomy, competence, and relatedness are met (Deci, Eghrari, Patrick, & Leone, 1994). In other words, when individuals feel they have choice, when they have the opportunity to feel successful, and when they feel connected to those around them, they are more likely to autonomously engage in activities and to feel more self-regulated when doing so.

THE PRESENT STUDY

Our goals for the present study were to explore the contribution of a group intervention to one adolescent's development of self-determination for career exploration. Our research questions were: How did the group activities, climate, members, and facilitator contribute to the process? What are the confounding or alternate factors (individual elements)? To explore these questions, we used a single, instrumental case study approach (Creswell, 2007; Yin, 2009). Case studies are used to investigate a phenomenon in depth and in its naturalistic context (Yin, 2009). Instrumental cases are those selected for their ability to provide insight into a particular issue of interest (Stake, 1995). We selected "Bryan" as our case, because we believed his process to be exemplary and could therefore elucidate important aspects of the impact of the group on change. We analyzed data from across multiple sources to further understand how the group contributed to Bryan's self-determination and career adaptability.

METHOD

Participant

Bryan was a 16-year-old male who identified his ethnic background as both Polish and Greek. Specific information regarding his parents' country of birth was not obtained for this study. At the time of investigation, Bryan was in Grade 10, and reported having failed Grade 9 once. He had never been diagnosed with a psychological disorder or learning disability, and noted that his academic grades were mostly in the "60s." At the time of the investigation, he was attending a large, suburban high school. He was recruited for the intervention study because he had failed his career exploration class the year prior to the investigation. This was the second time Bryan had taken the class; although he had passed the first time he took it, he had had to repeat all of his classes after failing Grade 9. He was invited to an informational meeting about the project and elected to participate. Although he had passed the course once, Bryan was retained as a participant for his potential to illuminate why students lack motivation for the career class. He was selected as the case for the present study as he was believed to be the individual who gained the most from the group sessions and who demonstrated the greatest commitment to the group process. He attended all 10 sessions of the group intervention.

Data and Measures

We used a range of data sources to explore our research questions. This included (a) video-recordings of full sessions, (b) two sets of field notes (one from a researcher who attended the sessions, and one from a researcher who watched the videotapes), (c) pre- and post-group interview transcripts, (d) participant artefacts, and (e) pretest questionnaire data. We attempted to obtain posttest questionnaire data; however, Bryan did not complete and return the questionnaire.

Video records. Each session was videotaped. During some sessions, participants were divided into small groups for particular activities, and therefore two cameras were used so that every participant was on camera at all times. These video-recordings were used by one of the researchers as the object for recording field notes about the group process. The videos were also reviewed by the first author for the case study analysis, and portions of them were transcribed and included in the results.

Observation records. The first and third authors attended all group sessions and produced field notes and observations. The first author facilitated the group, while the third author recorded observations during the session. The fourth author, who did not attend the sessions, viewed the video-recordings of sessions and documented her observations. Both researchers who did not facilitate the group observed and recorded field notes with a focus on participants' interactions with the activities, one another, and the facilitator. In addition to her general notes about the group process, the in-session researcher intervened with selected participants at various points throughout the sessions in order to ask questions

and obtain first-hand information about an individual's process and responses to the activities. During the analysis, observational data pertaining to Bryan were segregated from the overall records.

Interviews. Interviews were conducted with Bryan 1 week before the first session and 1 week after the final session. An interview protocol was developed to explore Bryan's experiences in the group. The first portion of the protocol was structured and consisted of five questions, asking Bryan about his career interests, self-knowledge, job search activities, help-seeking strategies, and thoughts about his previous career exploration class. These questions were asked both pre- and post-intervention. In the post-group, semistructured interview, questions pertaining to Bryan's experiences of learning and motivational change over the course of the intervention were also included.

Participant artefacts. During the group sessions, Bryan completed various written or artistic tasks. This work was kept and used as data for exploring Bryan's reactions to or interactions with the activities. For instance, on several occasions, he was asked to reflect, through drawings, on his experience of the activities. The drawings were used as data representing his process in response to the group activities.

Questionnaires. Prior to beginning the group, Bryan completed a series of pretest questionnaires. These questionnaires examined his self-regulation (e.g., amotivation, introjected, identified) for career exploration (*Treatment Self-Regulation Questionnaire* [TSRQ]; Levesque et al., 2007), his perceived competence for career exploration (Perceived Competence Scale [PCS]; e.g., Williams et al., 2006), and his need satisfaction in life (Basic Need Satisfaction in Life Scale [BNS]; Gagné, 2003). The TSRQ and PCS were both adapted from their original versions for the purpose of this study. The wording of items was changed to tap Bryan's self-regulation and perceived competence for career exploration specifically. Bryan also completed a modified version of the Academic Amotivation Inventory (AAI; Legault et al., 2006) to capture amotivation for his previous career class. Finally, an open-ended questionnaire was developed to obtain qualitative descriptions of, and allow for elaboration on, the items of the AAI.

Procedure

Approval to conduct this study was secured from the ethical review board at the authors' institution, the governing board of Bryan's high school, and from the school board. Bryan then provided his assent to participate and returned a signed consent form from his parents. Once all approvals were obtained, he completed the pretest questionnaires. He was then interviewed using the semistructured, pre-group interview protocol. One week following the interview, the first meeting of the intervention commenced. The sessions ran weekly, except for a 1-month break for holidays that occurred between Sessions 7 and 8. All sessions were videotaped. After every session, any work Bryan completed was collected and stored using a confidential participant code. One week following the final group session, Bryan was interviewed using the post-group interview protocol.

Intervention. The first two sessions focused on helping Bryan get to know others and connect to the purpose of the group. He engaged in team-building tasks, such as developing a group contract, naming the group, sharing stories about his previous career exploration experiences, and brainstorming possible activities for later sessions. He was given all of Session 3 to research his career of interest. He used a worksheet to structure his search and record his findings (e.g., training programs, salary).

Session 4 focused on increasing self-awareness through working on a hands-on task in a group. This type of task was requested by the group, due to their interests in "learning-by-doing." The youth were divided into two small groups, and each group was given a small model "car" (i.e., a small construction toy). Group members were assigned roles to mirror positions they may encounter in a large business setting (e.g., boss, supervisor, labourer, scribe/note-taker). They were asked to remain in their roles for the entire exercise, and then group discussion focused on reactions to playing these roles.

Session 5 gave Bryan the opportunity to complete the toy model without having to take on a predetermined role. Group discussion focused on comparing the two sessions and on identifying self-learning.

Session 6 was designed to give Bryan the opportunity to evaluate the intervention to date. He was provided with a list of the session objectives and activities and asked to rate and discuss how well the activities were meeting the objectives. The next two sessions focused on helping Bryan identify his strengths, protective factors that could enable successful career decision-making, and risk factors that act as barriers to attaining his goals.

Session 7 was a Career Toolbox activity. Bryan was given a plastic toolbox with empty envelopes labelled "me," "interests," "skills," "values," "needs," and "supports." The activity took Bryan through filling his envelopes one at a time, with the facilitator leading a discussion about what each envelope signified.

Session 8 was a Career Garbage Bag. The Garbage Bag activity was similar to the toolbox, but envelopes addressed qualities and supports Bryan wished he had, negative messages he has received from others, and feelings he experienced in response to these negative messages.

In Session 9, Bryan completed a "profile sheet" of his strengths, interests, personal characteristics, style when working in a group, and challenges of working in a group. He also reviewed a list of career values (e.g., financial stability) and work environment preferences (e.g., I prefer to work alone). He then circled the ones with which he felt most aligned. In Session 10, Bryan reflected on the intervention as a whole, as well as on his individual experiences and learning.

Throughout the 10 sessions, the facilitator structured the group activities to enhance opportunities for participants to get to know one another and develop increasing comfort to share personal information. To achieve this, the facilitator shared some of her own career development experiences while also using humour and small talk to connect with the participants. In addition, the intervention activities were designed by the research team to encourage discussion and the development of relationships among the group members.

Data Analysis

We explored our research questions using a holistic case analysis approach (Creswell, 2007). This approach allowed us to describe and interpret aspects of the entire case—in other words, not only Bryan's process, but how the group contributed to it. To conduct our analysis, we first explored the observational data on the group process and, using holistic coding (Saldana, 2009), extracted a set of session-by-session codes. In holistic coding, data are chunked into broad topic areas in order to obtain codes that capture the big picture of what is occurring.

We then grouped the codes from across the three sets of observational data and "themed" (Saldana, 2009, p. 139) them into more abstract concepts for each session. Next, we re-examined the data looking specifically for observations about Bryan. We used these examples to evaluate the applicability of the themes in describing his process, and modified the theme or regrouped codes in order to most accurately capture what appeared to be occurring. The specific observations were designated as examples of the themes from which they were extracted. We then explored Bryan's artefacts to evaluate and/or expand the emerging themes. Our final step in this process was to interpret the case as a whole (Creswell, 2007) and describe Bryan's developmental trajectory as a function of the group activities and processes. To achieve this, the first author wrote a narrative that (a) illustrated Bryan's experiences at the beginning, middle, and end points of the group; and (b) described the contribution of the activities and processes at each time point. This narrative became the structure that organized the presentation of our results.

RESULTS

Bryan: A Description

Bryan usually wore baggy jeans, a black t-shirt, skateboarding shoes, and a silver wallet chain. He identified himself as a skateboarder, and others in the group considered him the "artist," because they thought he could draw better than everyone else. Bryan did not believe he could draw well, but with interests in photography and graphic design, he did consider himself creative. Bryan was often self-deprecating, making statements such as "I have no skills," and he appeared conflicted about his thoughts of being successful in the future. For instance, he talked about being lazy and disorganized, and how these qualities would hinder him in the world of work. At the same time, he also believed he had the ability to be a hard worker.

As a group member, he was consistently funny, engaged, respectful, and inquisitive. He was often the literal and symbolic centre of the group. He generally sat in the same place, which was the chair in the middle of the semicircle. He told jokes, lightened the mood by relating content to television shows and video games, and made humorous statements (e.g., "I am Bryan and I like long walks on the beach; I am a romantic," when identifying his personal characteristics).

When he told jokes, others would laugh and then make jokes of their own. At times he would distract others by talking to them, but took little time to reorient to the task. He was able to work independently, follow instructions, and ask for clarification when confused. He often raised his hand or asked for help from the facilitator. It became increasingly evident near the end of the group that others looked to Bryan for his comments and feedback, and that in many ways he drove and maintained the conversations.

Bryan frequently raised themes of trust, respect, and "school smarts" versus "street smarts." He talked about not trusting people in positions of authority, particularly the government. In his opinion, authority figures took away his freedom and restricted his actions and choices. For instance, he felt frustrated with having to complete courses, such as math and science, in order to be considered for a job. He wanted to be recognized for his "street smarts" and common sense instead of restricted by his academic struggles. He perceived the educational system as placing strict and difficult academic demands on him.

Although he expressed frustration with authority, Bryan was consistently respectful of the group facilitator. He thanked her every week for bringing snacks to the group, and offered to pay for the pizza she bought for the last session. He also requested that "respect" be included in the group contract for rules of conduct, and made a point to add "listening to each other, especially [facilitator]" as a central aspect of respect in the group. In his post-group interview, he also discussed the differences between good and bad teachers, identifying the good ones as those who "show you" how to do the work instead of "doing it for you." It appeared that, for Bryan, respect and feelings of equality were central to the development and maintenance of good, trusting relationships. In sum, Bryan seemed to know intuitively who he was and what he needed from the group experience. However, he had a poor self-image as a result of negative academic experiences. This left him feeling confused and conflicted about his strengths and ability to succeed in life.

Before the Group: Seeking Autonomy and Competence

Before the group, Bryan was looking forward to engaging in further career exploration, but was seeking an experience that met his needs. On the pretest BNS, he showed a conflicted sense of overall competence in life. For instance, he indicated that both of the following statements were somewhat true for him: "Most days I feel a sense of accomplishment from what I do" and "I often do not feel very capable." However, relative to his competence for career exploration, he highly endorsed that he felt confident in his ability to explore, was capable of doing career exploration, was able to engage in exploration throughout his life, and was able to meet the challenges of doing career exploration when needed.

While Bryan felt competent to explore, he perceived himself as lacking autonomy in his life in general. He rated the item "I feel like I am free to decide for myself how to live my life" as not true at all, and "There is not much opportunity for me to decide for myself how to do things in my daily life" as somewhat true. Bryan felt a general sense of being controlled by others, and perceived himself as

having few choices with respect to his daily activities. Overall, Bryan generally felt he had good relationships with people in his life.

Bryan joined the group after failing his previous career exploration class. He had taken the class once before and had done well, but failed Grade 9 and therefore had to repeat all of his classes, including the career class. He failed the class when he took it the second time, because “I was not as interested … I [already] knew what I liked.”

Bryan also reported that his teacher “got mad at me for researching graphic design again.” Although he had had this negative experience, he reported on the TSRQ that he believed career exploration was an important and valuable task (identified regulation). At the same time, he also indicated that he would engage in career exploration to please other people (introjected regulation). Therefore, although he had personal reasons for exploring, he did not necessarily experience the exploration as purely autonomous. Bryan reported joining the group “to help me with my job exploration,” and he expected the group to be about helping “us find and look into the job we would like to do in the future.”

During the Group: Factors Leading to Change

In this section, we describe the session-level themes that emerged from our analysis across the multiple sources of data. Table 1 lists the themes by session, alongside the group activity from which the theme emerged. In the first session, Bryan expressed knowledge of his need for support around career exploration: “How would we help somebody, when we’re the ones who need help? ” However, he noted that it was interesting “that I wasn’t the only one who failed [the career exploration class].” In the second session, a central part of the group discussion focused on brainstorming ideas for fun and engaging group activities. In discussing ideas, Bryan used language such as “due date” and “project,” and other group members critiqued this for feeling too much like school. This seemed to highlight an inner conflict for Bryan: he wanted the group to be different from school, but could not think beyond his academic frame of reference. Although he was seeking a new experience, he struggled to know exactly what he needed.

In Session 3, Bryan engaged in researching careers on the computer. During this session, he chose to listen to music through his headphones as he worked. This activity contributed to Bryan learning more about his career of interest, and in his drawing from that session he depicted the importance of having a quiet session to focus. He wrote “concentration” and “quiet” above the people he drew sitting at computers. This was interpreted to suggest that these were central aspects of his experience in this session. He wrote the words “When people want to succeed, success will happen” at the top of his drawing, which suggests the emergence of a positive attitude, or perhaps a note to himself to maintain a positive outlook as he continued to explore careers.

In Session 3, Bryan also began to identify obstacles to his career plans, including his grades, and specific qualities he may need to have in order to succeed in his career (i.e., “For graphic designing I need a strong artistic background”). Overall,

this session led Bryan to further explore graphic design and learn more about the specifics of the field. This exploration also seemed to have contributed to reflection on his idea of success.

Table 1
Session Activities and Corresponding Case Themes

Session	Activity	Theme
1	Group contract	Construction of rules, norms, boundaries (relational, structural)
2	Reviewing contract, setting goals	Construction of rules, norms, boundaries
		Psychoeducation: obstacles to career exploration
		Construction of group activities
3	Computer research	Focused attention/engagement
		Job exploration
		Connecting self to job
4	Building a car (with roles)	Involvement (investment, broadening, evaluation)
		Connecting self to activity
5	Building a car (no roles)	Involvement (excitement, problem-solving)
		Negotiating small group roles
		Connecting self to activity
6	Reviewing objectives	Conflict/challenge
		Disengagement
		Exploration of career decision-making
7	Career Toolbox	Constructing beliefs about self
		Engagement
		Group cohesion
		Teaching/modelling by facilitator
8	Career Garbage Bag	Constructing personal meaning of career exploration
		Negotiating relational dynamics
		Teaching/modelling
9	Career Profile Sheet	Constructing an identity
		Negotiating relational dynamics
		Reciprocal teaching
10	Termination/close the group	Constructing purpose of group
		Seeking connection
		Feeling supported and validated

During Sessions 4 and 5, Bryan began to engage more readily in self-exploration. In Session 4, when group members were assigned roles while working on the construction toy, Bryan was given the role of note-taker. He was not allowed to touch the model or help with building. In the group discussion after the activity, Bryan expressed having "the worst job" and wishing that next time he could build. He also stated that he "understood [the model] as soon as I saw it," but

was frustrated because he could not do anything about it. By contrast, in Session 5 when no roles were assigned, he became invested and wanted to keep looking at the model even after his group finished putting it together.

The combination of these two experiences, one frustrating and one rewarding, engaged Bryan in reflecting on the types of jobs and work tasks for which he felt most suited. When describing the benefit of the car-building activity, he explained the concept of person-environment fit in his own words:

> I don't think anybody knew what they really wanted to go in … like the kind of area, the work area … so I guess by somebody giving instructions and I didn't like it, I guess I'm not gonna be a supervisor or something, 'cause that's what supervisors do, they instruct people, so I guess I'm not gonna go into that. And it just helps people out more like, know what kind of work environment really.

Experiencing a role he did not like—contrasted with being able to choose his own role—helped Bryan to realize that he would not enjoy being in a supervisory role at work. He was beginning to reflect on himself and how he might fit into the world of work.

Session 6 was a transition point for the group; it involved challenge of the facilitator and disengagement of the group members. The activity focused on allowing group members to evaluate the intervention to date. Bryan complied with the task, but also resisted truly engaging in it. When the facilitator asked the group members to self-reflect, Bryan reported that "thinking about yourself is selfish." He also expressed feeling bored and disconnected from the activity. However, when the facilitator asked the group members to reflect on what career exploration means to them, Bryan's response was "doing activities like this and finding out what you're good at." From there the group engaged in a discussion about work environments. Overall, Bryan vacillated in this session between boredom and connecting to the activity.

Session 7 was the turning point for Bryan. Through filling his career toolbox and dialogue with other group members, Bryan identified and constructed the meaning of these attributes for his ongoing exploration. He clarified his strengths and also began to explore his negative self-perceptions. He engaged in making meaning around the impact of these perceptions on his career exploration. In sharing and discussing both strengths and challenges with others, Bryan began to develop who he was and began to explore how to use this knowledge to feel successful in his career decision-making. The following interaction between Bryan, the facilitator, and other group members demonstrates this theme of "constructing beliefs about self":

> Facilitator: Bryan, before you were saying that you don't feel skillful. Do you think that's true?
> Bryan: I don't know. I think I am, but at the same time, I don't know.
> Marc: You're skillful at taking pictures.
> Bryan: I guess. I have a creative eye, if that makes sense.
> Jesse: You're skillful at drawing.

Bryan: (mumbling) I guess so.
Facilitator: Well, it sounds like you're doubting yourself a little bit.
Bryan: Well, I don't know. I know I have skills. It's just that, I don't know what they are yet. Unless, I don't know what skills are. (laughs)

Marc and Jesse offered Bryan support and praise for his strengths in an attempt to encourage him to see himself as "skillful" and creative. He accepted their compliments, but only in a cursory way. He did not integrate the positive comments into his sense of self, but began to engage in exploring the meaning of a skill and if he had one. He was constructing for himself the concept of a "skill" and being "skillful." Although he laughed at the idea that he does not know what skills are, it is quite likely that it had not occurred to Bryan to count as valuable the things that he could do.

At the end of the session, Bryan said, "Well, I learned that I don't know what skills I have, I want to carry [the toolbox] around so that if someone asks me I can say 'Oh, I have …'" (while pretending to be opening the envelopes). This shows that, although he had not internalized the positive feedback from the group, the toolbox provided him with an external container of the multiple resources he could use to successfully navigate the world of work. In fact, Bryan returned to the group in Session 8, opened his toolbox, and was surprised at how few skills he had put in there. He stated that "I have been thinking about it and I think I have more skills than I thought." He then proceeded to add new skills to his toolbox, further constructing his sense of identity and competence.

During Session 8, while filling his career garbage bag, Bryan shared some negative comments he received from his parents, "You're stupid, because you suck at school.' My dad told me that." He explained that hearing these statements from his father "makes me feel like I'm not going to be successful. I'd rather have more positive comments." Through this activity, he actively engaged in processing the impact of these statements on his sense of work-related competence, but also challenged social values with regard to work skills. It was during this activity that he particularly emphasized his frustration with feeling that being smart and doing well in school are the only ways to get a good job. He expressed concern that his skills would be overlooked if his grades were too low, and worried about his future, stating: "I hope I'm successful in the future. I think about that every day." Although he explored difficult content in filling his garbage bag, he also wanted to "keep the garbage bag. I won't always read it, but we can read it 10 years later to see if we achieved the things we wanted."

In Session 9, Bryan engaged in integrating his learning from across all sessions. The contents of Bryan's career profile sheet reflected the conclusions he came to during the group discussions. He was still unable to identify what he had contributed to the small and large group activities, but he could identify some skills (i.e., "making people laugh," "creativity," "always doing my work," "willpower"). Although Bryan expressed some boredom with the task because it felt repetitive, he identified a possible reason for its usefulness in the future.

Bryan: I think you're just trying to make us stick it into our heads of what we know about each other.
Facilitator: OK. Is that a good thing or a bad thing?
Bryan: Well maybe it's good, ya, I guess it's good, 'cause we think of now, well we're in our teenage years and we think of all our skills and all that we have now. Maybe later on in like 6 years we won't have the exact same skills so we can look at this sheet.

This quotation highlights Bryan's recognition of his current developmental phase, "We're in our teenage years," but also his ability to imagine his skills evolving over time. He was aware that in several years he would be different, and that he would be able to look back and reflect on the changes he had made. Having to integrate his learning led him to reflect on development as fluid and ongoing, as something to be continually constructed. During this session, Bryan talked most often to the facilitator and showed more engagement in the self-reflective activity than did other members of the group. While others joked around, talked about feeling bored, and did not engage with the facilitator's questions, Bryan frequently responded and elaborated on his thoughts.

In the final session, Bryan was quieter than he had been in previous sessions. When he did speak, he made reference to the group being different from a regular class. He stated:

> I liked the fact that you were the teacher, but you talked to us like a group; it's not like individual (pause). I don't know how to explain it. It's not like a class where if the student has a problem with something he has to go up to the teacher individually. Basically, this was a group (motions with his hands to include everyone); it's more comforting.

In addition, at one point in the session he asked the facilitator, "Do you feel older when we call you 'Miss'?" The facilitator responded "Yes," and then Bryan said, "Oh OK, then we should call you [name]." This appeared to be an attempt at connecting and relating with the facilitator in a more egalitarian way. The environment and his feelings of comfort in the setting, and with the people, appeared to be a central aspect of the group for Bryan. Specifically, he seemed to respond positively, by actively engaging and gradually sharing more personal information, to opportunities to discuss career issues in a somewhat intimate setting. Although he learned about himself and engaged in self-exploration, at the end of the group, this seemed to be less significant than his connection with the facilitator and other group members. However, he did connect to the purpose of the intervention as a whole: "We can't dislike [any of the activities], because they're kind of important."

After the Group: Change

Overall, at the end of the group, Bryan had developed a new sense of self, one that was more empowered, excited about his future, self-assured, and action-oriented. His career interest had not changed, but after the group he reported feeling more capable of making career decisions based on knowledge of his values

and needs. Our analysis yielded three main outcomes for Bryan as a result of these many experiences in the group: *self-awareness*, *competence*, and *initiative*. At the end of the group, Bryan was making more connections between what he knew about himself to what he also knew about work; work environments can, to some extent, be chosen to meet your personal work needs. In the post-group interview, he stated,

> I would like to work at an office but like, be told what to do, but at the same time not exactly what to do … if I was given a specific date [to finish a project] … I'd do it … well, that's something I have to work on.

His competence had also increased, as he saw himself being more capable of attending higher education: "Well, I wanna go for graphic designing and photography, but I want to try and go into university, too. I could be more, uh more uh, legit." Prior to the group, he had questioned his ability and desire to attend junior college. By the end of the group, Bryan had adopted a more active approach to help-seeking. At first, he relied on his father to do the research; after the group, he took the initiative to attend a career fair to learn more about graphic design schools. He took the information his father had shared with him, and actively sought out others who could help him increase his knowledge of the field. After his group experience, Bryan was interested in learning more about how to attain his career goals.

DISCUSSION

The case of Bryan highlights several important findings relative to mechanisms that contributed to change. Through the lens of our theoretical framework, we understand the case to point to the importance of satisfying Bryan's needs for autonomy, competence, and relatedness, as well as engaging him in activities that provided opportunities for dialogue and identity construction. However, we have also identified several findings that we see as extending beyond the scope of our framework. For instance, several concepts from learning theories, such as experiential learning (Kolb, 1984) and scaffolding (Vygotsky, 1978), may offer unique and valuable perspectives to this case. In addition, several influencing factors emerged that were unique to Bryan. To discuss the findings, we both apply our theoretical framework and explore these additional perspectives in an attempt to explain how and why the intervention improved Bryan's self-awareness, competence, and initiative/help-seeking.

Group Mechanisms

One of the significant themes that emerged from the case was the importance of relatedness. Bryan actively sought connection with the facilitator, and responded positively when others sought connection with him. When he felt connected, he engaged. His engagement was both immediate and long-term; he actively participated in the group activities, but also began to think about his identity when outside the group. This suggests that he was identifying with the

task of self-exploration, and seeing it as something worthwhile and interesting. According to SDT, this is a marker of autonomous motivation and a move toward self-regulated behaviour (Deci & Ryan, 2008).

For Bryan, autonomous motivation to self-explore stemmed from the satisfaction of his need for relatedness by both his peers and the facilitator. In fact, for at-risk adolescents, connection with a caring, competent, and responsible adult often assists in developing feelings of competence (Larson, Hansen, & Walker, 2005). It also helps foster resilience (Aronowitz, 2005). As a result of a strong sense of relatedness, Bryan was able to explore negative experiences and barriers, resolve inner conflicts, and begin to develop a positive, empowered self-concept. In essence, he had developed a new set of tools for adapting to internal and environmental challenges (Savickas, 2005).

In addition to feeling related, Bryan developed competence. One of the ways in which his competence was fostered was through structure, particularly during the toolbox and garbage bag activities. Research has suggested that greater self-determination and cognitive learning occurs when lessons are presented in a clear and coherent way (Seidel, Rimmele, & Prenzel, 2005). In Bryan's case, he seemed to learn more about himself during those sessions where the activity provided him with clear instructions, a strong rationale, and small steps toward a larger goal. In addition, through the structure, Bryan's learning was scaffolded (Vygotsky, 1978).

The facilitator's modelling and systematic introduction of each "tool" helped Bryan to engage one attribute at a time, break down the process, and build his toolbox gradually. The task was also personal and gave him some autonomy to construct his toolbox in his own way. Both personal scaffolding (Ley, Kump, & Gerdenitsch, 2010) and autonomy-support (Jang, Reeve, & Deci, 2010) have been shown to contribute to self-regulated learning. Bryan's case highlights how these mechanisms contributed to greater involvement in the process of identity and career construction (Savickas, 2002). Constructing his self-concept, evaluating his identity in relation to others, and exploring ways to find value in his qualities appears to have led to a more fluid view of self.

Extending this point, our analysis suggests that engagement in experiential activities, in which Bryan learned by doing, paired with dialogue around identity (and skills, in particular), facilitated his growth. A recent study by Kuijpers, Meijers, and Gundy (2011) has shown the importance of career dialogues and practice-based learning in supporting the development of career competencies. These authors found environments that engaged youth in both of these types of learning led to more reflective and proactive career behaviours, as well as increased networking. In this study, Bryan began reflecting on his own career identity after engaging in the practice-based car-building activity. The toolbox and garbage bag activities then encouraged dialogue that ultimately increased his competence and readiness to be proactive. These activities likely contributed to Bryan's competence, because they focused on constructing not only who he was but how to use his knowledge to achieve his expectations (Savickas et al., 2009). He defined his work priorities, identified supports and resources, and engaged in active self-

reflection. Savickas et al. (2009) argued that these are central aspects of successful career interventions.

Unique Factors

Although several group-level change mechanisms emerged from the data, there was also evidence to suggest that Bryan possessed unique qualities that helped to move the process along. Bryan's use of the group to help resolve his inner conflicts (e.g., uncertainty about skills or his ability to succeed) demonstrates resilience as well as the ability to both adapt to the context and seek a transformational experience (Smith, 2006). He actively sought out the opportunity to increase his competence by joining the group, and then proceeded to readily engage in the activities. For an individual who has experienced much school failure and specific failure in the practice of career exploration, this shows strength along with an ability to cope with adversity.

Reframing negative experiences, as Bryan did during the garbage bag activity, is believed to be a significant contributor to the development of strengths (Smith, 2006). Resilience is considered a central factor in positive developmental outcomes for at-risk youth (Hauser, Allen, & Golden, 2006). While our data suggest several important mechanisms of change stemming from the intervention itself, the contribution of Bryan's resilience to his development of self-awareness, competence, and initiative should not be overlooked.

Limitations

Although Bryan's case illuminated some interesting and important factors in the process of developing a work identity, there are several limitations to this study. First, the analysis involved a single case. As Yin (2009) argues, a multiple case approach is generally stronger than a single case design. In a multiple case study, analyzing data across cases can provide more discriminating and potentially more generalizable results. Although we selected Bryan's case for its potential to illuminate particular aspects of the phenomenon of developing a work identity, we cannot conclude that his experience is typical, even of members of his group. Other individuals may present with different unique qualities that influence the trajectory in other ways. To account for possible differences, a comparative case study could be conducted to explore and cross-analyze data from several participants. This could aid in the discovery of other change mechanisms not characteristic of Bryan's process.

A second major limitation of this study is that the group facilitator was also the primary researcher. She conducted the group sessions as well as collected and analyzed the data. Although this approach provided a wealth of experience and insight from which to develop interpretations, it may have also biased the data. By triangulating the data and conducting the analysis using multiple sources (including observations recorded by two different researchers), we have attempted to decrease the impact of researcher bias. However, the credibility of the results could have been enhanced through the technique of member checking (Creswell, 2007), wherein participants are presented with the findings and their feedback

on the researchers' interpretations of the data are elicited. Participant feedback obtained through a member check is then integrated into the findings. For this study, we were unable to conduct a member check owing to practical considerations (i.e., the end of Bryan's school year), but sharing the narrative with Bryan and inviting his feedback would certainly have helped to substantiate the accuracy of our interpretations.

A third, and related, limitation is the lack of Bryan's post-intervention self-report data. This information would have been beneficial as it could have corroborated and expanded the current findings. In order for other researchers to have more success in obtaining posttest data from this population, we suggest scheduling a follow-up session with all participants. This would provide a structured setting within which to complete the questionnaires. Alternatively, researchers could allot time for this task immediately preceding the final interview.

Implications

Although this study has several limitations, Bryan's case also illuminates some exciting possibilities for future theory, research, and practice. This study offers a greater understanding of the intervention-level mechanisms that are likely to contribute to the career development of disengaged youth. Through the lens of our theoretical framework, our findings also help to elaborate on the connection between motivation and career development. In particular, our results suggest that the satisfaction of basic psychological needs contributes to engagement in career dialogue and self-exploration. For Bryan, the provision of structure and connection were two crucial components of this process. Relative to using these findings to refine the group intervention, future versions of the design may benefit from integrating activities aimed at cultivating new strengths and building on existing resilience. As Smith (2006) has argued, these are central components of conducting strength-based counselling with at-risk youth.

In our own work, we plan to use results of this study to inform our ongoing design of the intervention. For instance, we now have evidence to support continuing to facilitate the car-building, toolbox, and garbage bag activities that engaged Bryan in experiential learning, scaffolding, and identity construction.

More globally, our findings help to suggest potential areas for future research on SDT and career construction. In particular, Bryan's case suggests that the satisfaction of needs for relatedness and competence were central components of engaging him in career dialogue. While SDT researchers have explored need satisfaction, the majority of the research has focused on autonomy-support. This study argues for the potential of exploring the importance of relatedness in the process of identity development for at-risk youth.

Flum (2001) as well as Flum and Lavi-Yudelevitch (2002) have begun to explore the connection between relational dimensions and identity development, but have yet to relate their findings to the process of developing a work identity or to studying at-risk youth. As this particular population of youth have often faced academic failure, they may be in need of more structure, as well as trusting, empathetic

relationships with authority figures, and supportive, affirming relationships with peers who experience similar struggles. Exploring this hypothesis and developing insight into the crucial components of these relationships as they relate to career development could be a fruitful avenue for future research.

Finally, Bryan's case suggests several implications for practitioners engaged in facilitating the career development of at-risk youth. As was the case with Bryan, building a trusting relationship based on collaboration and equality may be central to engaging this population in career exploration. Providing them with a lot of structure, clear rationales, explicit instructions, and systematic procedures for exploring their identities is likely to lead to greater competence, self-awareness, and initiative. In addition, self-exploration through practice-based and experiential activities, paired with ongoing career dialogue, is a potentially valuable combination of interventions for these youth.

In summary, the present study attempted to describe the career development experience of one adolescent from an at-risk population. The results suggest that developing a work identity (that results in greater self-awareness, competence, and help-seeking) is facilitated by feeling connected while self-exploring, learning-by-doing, following a structure, engaging in dialogue, and drawing on resilience. By attending to these issues, practitioners and researchers may be able to improve existing services for youth like Bryan, and more effectively meet the needs of disengaged youth during the school-to-work transition.

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