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Learning during Imprisonment: Prisoners’ Motives to Educational Participation within a Remand Prison in Belgium

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Abstract
This study focuses on prisoners’ motivation for participation in educational programs within a remand prison in Flanders (Belgium), using a standardized questionnaire (N = 486). Descriptive, bivariate, and logistic regression analyses are used to map differences in educational motives. The results show that 29% of the respondents participated in education within the institution before or during the study. The most indicated motive for participation is the desire to learn (63.2%), followed by obtaining a degree (54.7%), and making plans for the future (40.2%). These motives were clustered in motivational categories. The most occurring motivational orientations, or categories, are the micro goal (79.49%), learning (63.2%), and normalization orientation (54.7%). Social reasons and recommendations by others are less common. Furthermore, this research demonstrates differences in motivational orientations based on individual and prison-related features of the prisoners. Younger respondents, for example, are more likely to have a micro-goal orientation. Also, increased length of incarceration goes hand in hand with a decreased likelihood of the presence of the
normalization orientation towards the learning. The article concludes with some practical recommendations to empower educational activity providers in responding to different motives of prisoners while developing the educational curriculum.

**Keywords:** formal education, motivation, remand prison, participation

**Introduction**

In 2014, more than 11,000 people, or 105 people per 100,000 residents, were being housed in Belgian correctional facilities (International Centre for Prison Studies [ICPS], n.d.; Federal Public Service Justice [FPS Justice], n.d.). This number increases every year, mostly because of the increasing length of detention and longer periods of remand custody (Maes & Scheirs, 2009). Around 30% of the prisoners are housed in remand prisons—prisons where the accused are awaiting their trial (ICPS, n.d.).

In comparison with the national average, the level of education of the prison population is low (Harlow, 2003; Hopkins, 2012; Klein, Tolbert, Bugarin, Forrest-Cataldi & Tauschek, 2004; Lochner, 2010; Nordic Council of Ministers, 2005). Likewise, there are numerous prisoners with poor levels of literacy and numeracy skills (Hawley, Murphy & Souto-Otero, 2013; Vacca, 2004). The lack of these skills and knowledge makes it difficult for released prisoners to deal with the rapid changing knowledge-based society (European Commission, 2005; Travis, Solomon & Waul, 2001; Vacca, 2004). However, by offering learning opportunities within correctional institutions, this basic-skills gap can be reduced (Hawley et al., 2013; Vacca, 2004). Moreover, education has been argued to be one of the factors that stimulates desistance from crime (e.g., Blomberg, Bales, Mann, Piquero & Berk, 2011; Shover & Thompson, 1992) and contributes to the rehabilitation and reintegration of prisoners (e.g., Travis et al., 2001). Education leads to, for instance, an increased likelihood for employment after release (Davis, Bozick, Steele, Saunders & Miles, 2013; Eikeland, Manger & Asbjørnsen, 2009; Messemer, 2011), higher self-esteem (Erisman & Bayer Contardo, 2005; Hawley et al., 2013) and learning gains (Messemer, 2011; Reed, 2014). Participation in prison education programs also contributes to the well-functioning of the prison as an institution, as prisoners who take part in education are less involved in violence and misconduct (Alzúa, Rodriguez & Villa, 2009; Batchelder & Pippert, 2002; Messemer, 2011; Travis et al., 2001) and has been argued to lead to reduced recidivism rates (e.g., Davis et al., 2013;
Kim & Clark, 2013; Messemer, 2011; Travis et al., 2001). The meta-analysis of Davis et al. (2013, p. 57), states: “On average, inmates who participated in correctional education programs had 43 percent lower odds of recidivating than inmates who did not.”

Next to the above-mentioned positive outcomes, there is a humanistic and legal support base for providing education within the prison environment. First, education helps to develop an individual’s human capital and provides tools that support individuals to partake in society (Lochner, 2010; Manger, Eikeland & Asbjørnsen, 2012; Nussbaum, 2002). Second, although imprisonment is inevitably linked with the deprivation of liberty, prisoners retain all their rights as human beings that are not inseparably related to their liberty, including the right to have access to educational services (Committee of Ministers of the Council of Europe, 2006; Maes, 2009). Legal frameworks underscore the importance of education within prison. The Flemish government’s (2013) “Decree on the organization of care and services for prisoners,” for example, indicates that high-quality programs should be offered in every prison, including educational programs. On the European level, the European Prison Rules (EPR) emphasize the importance of facilitating educational programs and stresses that these programs need to be accessible for all prisoners and respond to their individual needs (Committee of Ministers of the Council of Europe, 2006).

Although educational programs are offered within Flemish prisons and one’s motivation to learn has been widely stated to influence outcomes like course participation, persistence, and achievement (e.g., Colquitt, LePine & Noe, 2000; Deci, Vallerand, Pelletier & Ryan, 1991; Klein, Noe & Wang, 2006; Manger et al., 2012), the motivation of inmates to participate in prison education is still unclear (Brosens, 2013; Maggioncalda, 2007). Consequently, the aim of this study is to gain insight into the factors that motivate prisoners to participate in educational courses. As the literature on educational participation motives of prisoners builds on the motivational literature within the general population, this literature will be discussed first.

**Theoretical Framework**

**Motivational Orientations within the General Population**

Different motivational theories have been developed in order to get insight into the educational motives of adult learners within the general population (e.g., Beder & Valentine, 1990; Boshier, 1971, 1991; Boshier & Collins, 1985; Morstain & Smart, 1974, 1977). A pioneer in this field is Houle (1961), who established a motivational theory that differentiates three types of motivation for participation.
in adult education, namely: (1) learning-oriented learners, (2) goal-oriented learners, and (3) learners who are activity oriented (Houle, 1961; Maggioncalda, 2007). The learning-oriented learners are intrinsically motivated and enjoy learning because of the learning activity itself (Houle, 1961; Maggioncalda, 2007; Ryan & Deci, 2000). Researchers building on this theoretical framework also call this learning because of “cognitive interest” (e.g., Boshier, 1971; Boshier & Collins, 1985; Morstain & Smart, 1974) or the “desire to know” (Burgess, 1971). Conversely, the activity- and goal-oriented learners are extrinsically motivated: for those learners, education has an instrumental value (Houle, 1961; Ryan & Deci, 2000). Goal-oriented learners use education in order to accomplish goals like professional advancement (Houle, 1961; Kaimakami, Panta, Kaparou & Kaimakamis, 2008; Maggioncalda, 2007). Some researchers divide the goal orientation into societal versus personal goals. For instance, becoming a more effective citizen, trying to understand problems, and helping others are considered societal goals. Personal goals are, for example, professional advancement and acquiring a higher status (Burgess, 1971; Maggioncalda, 2007; Morstain & Smart, 1977; Sheffield, 1964). Finally, the activity-oriented learners participate in adult education because of reasons inherent to the activity. The topic of the course is not important to the participant; rather, it is the activity itself that is of interest (Houle, 1961; Kaimakami et al. 2008; Maggioncalda, 2007). Other researchers have further elaborated on the activity orientation and argue that this orientation has a positive and a negative component. Positively activity-oriented learners participate in the learning activity because of social reasons: they like to meet new people, build friendships, and share interests with others (Boshier, 1971, 1991; Burgess, 1971; Kaimakami et al., 2008), while learners that are negatively activity-oriented escape something in their environment (e.g., daily routine, responsibilities, unhappy relation) (Boshier, 1991; Burgess, 1971; Maggioncalda, 2007; Morstain & Smart, 1977; Summers, 2001).

Motivational Orientations within the Prison Population

Although different researchers have focused on the motivations of adult learners in the general population, very little research has been conducted on prisoners’ motivations to partake in educational courses while in prison (e.g., Brosens, 2013; Delaere, De Caluwé & Clarebout, 2013; Maggioncalda, 2007). Exceptions are studies within the Nordic region, where Eikeland, Manger, and colleagues have been active in doing research on this domain (e.g., Eikeland, 2009; Eikeland et al., 2009; Manger et al., 2009a, 2009b, 2010, 2012; Westrheim &
Manger, 2014), and the USA-based research of Boshier (1983) and Parsons and Langenbach (1993).

For instance, Parsons and Langenbach (1993) tested Houle’s typology within the American prison environment and found similar motivational categories as Houle: cognitive control, goal, activity (social contact), and avoidance orientation. The cognitive control orientation is comparable to the learning orientation of Houle, that is, learning for the sake of learning. Within some motivational categories, the researchers include a few motives that are specific to the prison population and environment. The researchers, for example, add “augmenting limited previous education” to the cognitive control orientation.

Research in the Norwegian prison regarding prisoners’ motivations for participating in educational programs was conducted by Manger et al. (2012). They found that prisoners’ motivation can be related to the intrinsic value of learning (“competence building”) and social or avoidance related motivation (“social reasons and escapism”). Furthermore, the researchers add a category: “future planning.” The items related to this future planning, however, correspond highly to what Houle, and Parsons and Langenbach refer to as goal orientation.

This literature review makes clear that research into the motivations of prisoners to participate in educational programs is rather scarce, and the majority are conducted in the Northern European countries and the USA. In Flanders (Belgium), however, this topic has received only limited attention and is only in its infancy (exceptions: Delaere et al., 2013; Van Haegedoren, Lenaers & Valgaeren, 2001). Furthermore, the existing research mainly concentrates on convicted or long-sentenced prisoners (e.g., Delaere et al., 2013).

Research demonstrates that different variables influence prisoners’ participation in educational courses. For instance, participation rates differ according to age and time served. Younger prisoners are less likely to partake in education (Koski, 2009; Eriksson Gustavsson & Samuelsson, 2009; Gunnlaugsson & Ragnarsson, 2009), while participation increases with an increased sentence length (Koski, 2009; Eriksson Gustavsson & Samuelsson, 2009). Having insight into the profile of educational participants is, however, only one aspect. Research on the factors that influence the reasons why prisoners take part in educational courses is another aspect that has only been scarcely researched. Beder and Valentine (1990) already argued it is reasonable that there is no universal motivation, but rather that various subgroups display different motivations. Thus, gaining insights into the differences in motivational aspects influencing participation in education can give activity providers guidelines in (re)developing a differentiated educational curriculum.
by responding to the motives of different groups of people within prison (e.g., Batchelder & Pippert, 2002; Beder & Valentine, 1990; Delaere et al., 2013; MacGuinness, 2000; Maggioncalda, 2007).

Previous prison research demonstrates that the motivation to learn is influenced by different factors. For example, Manger et al. (2010, 2012) argue that younger inmates indicate more social- and contextual-oriented motives and reasons related to preparation for life upon release. Koski (2009), however, argues that the youngest age group (18–24 years) is less motivated by social-oriented motives compared to the middle age group (35–44 years). Additionally, higher educated inmates score lower on social reasons and reasons unique to the prison environment compared to prisoners with a lower level of education (Manger et al., 2012). Likewise, Koski (2009) found that the intrinsic motivation to learn something is more commonly expressed by prisoners who completed compulsory education and/or a supplementary year compared to other educational backgrounds.

Concerning length of incarceration, those with longer incarceration (more than five years) are more motivated by future inspired outcomes, such as seeing education as a bridge to employment after release (Manger et al., 2010). Furthermore, Manger et al. (2012) state that foreign citizens are more motivated because of social and contextual motives on the one hand and intrinsic motivational factors (acquiring knowledge and skills) compared to native citizens.

Despite the above described motivational differences between different groups of prisoners, research on this topic is rather limited. As Manger et al. (2012, p. 544) put forward: “Further studies are needed to see whether the difference in educational motives between the groups are confirmed and why such differences appear.” Moreover, as already indicated, most research focuses on convicted or long-sentenced prisoners. By detecting different motivations for different groups of remand prisoners, differentiated educational programming is possible (Beder & Valentine, 1990).

Research Focus and Questions

Notwithstanding the previously mentioned educational research in prison, there is still indistinctness about what actually motivates inmates to participate in prison education (Brosens, 2013; Maggioncalda, 2007), and previous research mostly does not focus on prisoners within remand prisons. Although international research has provided preliminary understanding in motivational differences between different groups within a prison environment (e.g., Boshier, 1983;
Manger et al., 2010), this research is rather scarce and focuses mainly on variables such as age (e.g., Boshier, 1983; Koski, 2009; MacGuinness, 2000; Manger et al., 2010, 2012), educational level (Koski, 2009; Manger et al., 2010, 2012), incarceration time (Manger et al., 2010, 2012), and nationality (Manger et al., 2009a, 2012). Limited attention is given to differences in motivations with regard to, for instance, the mastering of language and length of incarceration when making the decision to participate in educational activities. Considering the positive effects related to prison education, it is important to gain insight into motives of prisoners to participate in prison educational programs (Maggioncalda, 2007) and possible motivational differences between different groups.

In response to the above-mentioned research gaps, the following research questions are central: (1) What motivates prisoners to take part in educational programs? (2) Which differences in motivation can be found between different groups of participants in terms of individual and prison related features? In answering these questions, this research starts from the educational orientations that are discussed in the theoretical framework (formulated by Houle and adapted by, for example, Boshier, and Parsons and Langenbach), but also provides space for insights derived from practice-based and preliminary qualitative research.

**Method**

**Research Design**

A participatory research design is used to co-construct, organize, and facilitate the research (for more information see Brosens, De Donder, Dury, and Verté, 2015). A structured questionnaire, which was available in 13 languages, was completed in classrooms with a maximum capacity of 16. If the prisoner preferred to fill in the questionnaire at their cell, they were allowed to do so. Nevertheless, most of the respondents came to the classroom. The prisoners were personally asked in their cells to participate in the research and it was emphasized that participation was voluntary. The respondents had the right to decline the request and could stop if desired without giving any explanation. The questionnaire was designed to be self-administered; nonetheless the respondents had the opportunity to ask questions if something was unclear. If someone had reading or writing difficulties, a researcher or volunteer provided assistance to complete the questionnaire. This gave less literate prisoners the opportunity to participate.
Sample

The research took place in a remand prison, which implies that the majority of the prisoners were accused persons awaiting trial—in other words: pre-trial detainees or defendants who have a rather short and undefined stay within the remand institution. When someone has received their sentence, they are normally transferred to another correctional institution responsible for the execution of sentences. However, as prisons for the execution of sentences can impose waiting lists for the transfer of prisoners, some of these prisoners also do their (partial) time in a remand prison (FPS Justice, 2013).

The aim was to question the whole prison population (N = 677). Nevertheless, not all prisoners were able to be involved in the research project (e.g., a special security regime, state of semi-liberty, and hospitalization N = 20). Of the 657 prisoners who were able to be involved in the study, 486 prisoners took part in the research (response rate = 73.97%). 133 of these respondents indicated to participate in educational activities before or during this research. Table 1 gives an overview of the characteristics of these educational participants, of which 119 were men (89.5%) and 14 were women (10.5%). The average age of those prisoners who took part in education was 33.56 years (SD = 10.10). Different penal situations were present in our sample (defendant, 49%; convicted, 37.8%; interned, 13.3%). Internees are “people with mental disorder charged with offences but who are deemed to lack criminal responsibility.” Normally, these prisoners are held in psychiatric annexes within a prison while they await placement in a specialized “institution of social defense” (Naudts et al., 2005, p. 148). The interned people involved in the research, however, were staying at the “normal sections,” together with the defendants and convicted prisoners. Interned people staying at the special care annex were not included. Half of the prisoners who followed education stayed in the prison about 2–6 months. Another 22.0% were in prison for about 1 month and 30.1% were in prison for more than 6 months. About 35% of the prisoners who took part in education were Belgian. Others were from other European countries (21.3%) and non-European countries (43.4%). The average number of years of education before incarceration (without kindergarten) was 10.27 years (SD = 3.91).

Measures

The first draft of the questionnaire was the result of a literature review, preliminary qualitative research (focus groups), discussion, and alteration with partners (see Brosens et al., 2015, for detailed information). Second, specialists on clear linguistic usage proofread the questionnaire because of the low
Table 1. Characteristics of the respondents participating in educational activities

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>Valid percent</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>119</td>
<td>89.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>14</td>
<td>10.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgian</td>
<td>43</td>
<td>35.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other European</td>
<td>26</td>
<td>21.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-European</td>
<td>53</td>
<td>43.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mastering Dutch language</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very well</td>
<td>61</td>
<td>47.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A little bit to not at all</td>
<td>68</td>
<td>52.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Penal situation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defendant</td>
<td>48</td>
<td>49.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convicted</td>
<td>37</td>
<td>37.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interned</td>
<td>13</td>
<td>13.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length of incarceration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to about 1 month</td>
<td>27</td>
<td>22.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>About 2 to 6 months</td>
<td>59</td>
<td>48.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 6 months</td>
<td>37</td>
<td>30.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Years of educational participation before incarceration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>10.27</td>
<td>3.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>33.56</td>
<td>10.10</td>
<td></td>
</tr>
</tbody>
</table>

*Note: N = 133.*

educational level of most prisoners. Third, the questionnaire was piloted in Dutch, English, and French among male and female prisoners (n = 34) and they were asked to comment on both user-friendliness and content. This resulted in adaptations regarding formulation of questions, structure, and layout. The final questionnaire was translated from Dutch into 12 languages to anticipate possible language barriers: Albanian, Arabic, English, Farsi, French, German, Italian, Polish, Romanian, Russian, Spanish, and Turkish.
Dependent variables. To gain insight into the factors that stimulate prisoners' participation in educational programs, we asked the participants the following question: "Why did you take part in an educational course? Please check the appropriate answer(s)." Respondents were shown a list of 22 different reasons for participation. Afterwards, the researchers choose to apply a formative approach to scale construction (Bucic & Gudergan, 2004; Jarvis, Mackenzie & Podsakoff, 2003). The different items ("motives") are argued to represent an independent dimension within the construct ("motivational orientation") but are not necessarily similar, nor exchangeable (Bucic & Gudergan, 2004; Statistics Netherlands, 2011). We distinguish in total seven motivational categories (Table 2). The ecological model of Bronfenbrenner (1979) was applied to the motivational categories and divided these categories into a micro- and meso-level. While the micro-level categories refer to issues inherent to the individual, the meso-level includes social interactions (Brosens et al., 2013). An overview of the different motives belonging to each motivational category can be found in Table 3. These scales were tested on face validity in expert deliberation. Each motivational category was formed into a dichotomous variable (0 = not having this motivation, 1 = having this motivation).

Independent variables. Individual features, prison-related characteristics, and educational aspects within the prison were used as independent variables. The individual characteristics included age (in years), nationality (Belgian, European, non-European), mastering of the Dutch language (very well, a little bit to not at all), and years of educational participation before incarceration (total number of years of educational participation from primary education on). Prison-related variables were length of incarceration (1 week–1 month, 2–6 months, 6+ months), and the penal situation (defendant, convicted, interned). Furthermore, one educational aspect within the prison was included: the decision time for

Table 2. Motivational categories

<table>
<thead>
<tr>
<th>Micro</th>
<th>Meso</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Goal orientation</td>
<td>- Goal orientation</td>
</tr>
<tr>
<td>- Activity orientation: normalization*</td>
<td>- Activity orientation: social motives</td>
</tr>
<tr>
<td>- Learning orientation</td>
<td>- Recommendation orientation</td>
</tr>
<tr>
<td>- Continuation learning process orientation</td>
<td></td>
</tr>
</tbody>
</table>

*Note: In the literature the term "avoidance" is used. The researchers and activity providers of the prison wherein the research took place prefer the term "normalization" because of the more neutral connotation.
participation in an educational course (about 1–2 weeks, about 1–2 months, about 3 months or more).

**Analysis**

**Research question 1:** What motivates prisoners to take part in educational programs? In order to get insight into prisoners’ motives and the prevalence of these motives, multiple response analysis was used because respondents could tap multiple answers. The results can be found in Table 3 and give an overview of the prevalence of each motive and motivational orientation separately.

**Research question 2:** Which differences in motivation can be found between different groups of participants in terms of individual and prison-related features? In answering the second research question, a two-step analytical procedure was performed. First, bivariate analyses were conducted to investigate motivational differences between different groups, using Chi-square and one-sample t-tests depending on the nature of the variables (respectively nominal and ordinal versus scale). Second, in order to study prisoners’ individual and prison-related features as predictors for their educational motives, variables that caused significant or trend significant differences in at least one of the motivational orientations in step 1 were included in the regression analyses, the last phase of analysis. Regression analysis was performed for each motivational orientation separately. Given the dichotomous nature of the dependent variables, binary logistic regression analyses were chosen as the appropriate technique. All data were analyzed using IBM SPSS Statistics.

The researchers included seven predictor variables in analyzing 70 cases, which meets the suggested number of Events (10) Per Variable (EPV): 70/7 = 10 (Concato, Peduzzi, Holford & Feinstein, 1995; Hosmer, Lemeshow & Sturdivant, 2013; Peduzzi, Concato, Kemper, Holford & Feinstein, 1996). In the regression analyses, individual and prison-related features were first inspected each separately on outliers, which might be of great influence on regression analysis (Field, 2009; Sarkar, Midi & Rana, 2011). Furthermore, multicollinearity (intercorrelation of the predictors) was checked. The VIF showed no greater values then 1.59 indicating low multicollinearity (Field, 2009). Afterwards, logistic regression analyses were conducted and model outliers were detected: cases with a Cook’s distance value greater than 1 (7 in total) were eliminated (Cousineau & Chartier, 2010; Nurunnabi & Nasser, 2011; Stevens, 1984).
### Table 3. Overview of motives to participation in education indicated by participants

<table>
<thead>
<tr>
<th>Motives in order of motivational category</th>
<th>n</th>
<th>Valid percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GOAL ORIENTATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I want to obtain a diploma or a certificate.</td>
<td>64</td>
<td>54.7%</td>
</tr>
<tr>
<td>It allows me to make plans for the future.</td>
<td>47</td>
<td>40.2%</td>
</tr>
<tr>
<td>I’m getting a second chance.</td>
<td>24</td>
<td>20.5%</td>
</tr>
<tr>
<td>It increases my chances of release.</td>
<td>13</td>
<td>11.1%</td>
</tr>
<tr>
<td>Meso</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would like to learn Dutch to be able to talk to people on the outside.</td>
<td>40</td>
<td>34.2%</td>
</tr>
<tr>
<td>I would like to learn Dutch to be able to talk to the supervisors.</td>
<td>30</td>
<td>25.6%</td>
</tr>
<tr>
<td>I would like to learn another language to be able to talk to my cellmate.</td>
<td>21</td>
<td>17.9%</td>
</tr>
<tr>
<td>In this way, I would like to make things up to my family, friends . . .</td>
<td>13</td>
<td>11.1%</td>
</tr>
<tr>
<td><strong>LEARNING ORIENTATION</strong></td>
<td></td>
<td>63.2%</td>
</tr>
<tr>
<td></td>
<td>74</td>
<td></td>
</tr>
<tr>
<td><strong>ACTIVITY ORIENTATION</strong></td>
<td></td>
<td>60.7%</td>
</tr>
<tr>
<td>Micro: Normalization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel like a regular person instead of a detainee during classes.</td>
<td>38</td>
<td>32.5%</td>
</tr>
<tr>
<td>Attending classes gives the day variety.</td>
<td>31</td>
<td>26.5%</td>
</tr>
<tr>
<td>It takes my mind off things.</td>
<td>25</td>
<td>21.4%</td>
</tr>
<tr>
<td>It makes time go faster.</td>
<td>24</td>
<td>20.5%</td>
</tr>
<tr>
<td>It takes me out of my cell for a while.</td>
<td>19</td>
<td>16.2%</td>
</tr>
<tr>
<td>Meso: Social motives</td>
<td></td>
<td>21.4%</td>
</tr>
<tr>
<td>I get to see other people there.</td>
<td>18</td>
<td>15.4%</td>
</tr>
<tr>
<td>I’m taking classes because of the atmosphere in the group.</td>
<td>10</td>
<td>8.5%</td>
</tr>
<tr>
<td>Other inmates approve of me taking classes.</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td><strong>CONTINUATION LEARNING PROCESS ORIENTATION</strong></td>
<td></td>
<td>28.2%</td>
</tr>
<tr>
<td>I was already taking classes in prison.</td>
<td>20</td>
<td>17.1%</td>
</tr>
<tr>
<td>I was taking classes before I went to prison.</td>
<td>19</td>
<td>16.2%</td>
</tr>
<tr>
<td><strong>RECOMMENDATION ORIENTATION</strong></td>
<td></td>
<td>6.8%</td>
</tr>
<tr>
<td>My lawyer recommended it to me.</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td>A staff member suggested it to me.</td>
<td>3</td>
<td>2.6%</td>
</tr>
<tr>
<td>Another inmate told me about it.</td>
<td>1</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

*Note. N =117; percent refers to the percentage of respondents that indicated this to be a motive to participate in educational activities within prison. Respondents could indicate multiple responses.*
Findings

**Motivation to Partake in Prison Educational Programs**

Of the respondents with valid responses on the question if they partake in prison education ($n = 459$), 29% or 133 participated in formal educational programs within the institution before (17.2%) or during (11.8%) the research period. Amongst this group of participants, different motivations were identified. Table 3 presents an overview of these motives. Prisoners could indicate different reasons for participation. **Micro goal-oriented motives** are the most common response cited by the prisoners: 67.5% of the participants cited at least one micro goal motive. This micro goal orientation includes two of the top three most mentioned motives by prisoners to participate in formal educational activities within the penitentiary, namely obtaining a diploma or certificate (54.7%) and making plans for the future (40.2%). The second most forthcoming orientation is the **learning orientation**: learning because of the intrinsic motivation to learn (63.2%). The third most important orientation is **normalization** (54.7%). The feeling of being a regular person instead of a prisoner is the most important reason within this orientation. The **meso goal orientation** (47%) and the **continuation of previous education** (28.2%), respectively, take up fourth and fifth place. The prisoners indicated that **recommendation** by others is of little relevance: merely 6.8% of the prisoners indicated they participated in formal educational activities because someone recommended it to them.

**Differences in Motivation between Different Groups of Participants**

**Bivariate analyses: differences in motivational orientations.** Bivariate analysis shows motivational differences between different groups (see Table 4). Regarding **micro goal orientation**, age was shown to be of importance. Respondents indicating a micro goal orientation towards learning are significantly younger ($M = 32.01; SD = 9.27$) compared to respondents not indicating a micro goal orientation ($M = 36.01, SD = 10.54$) ($t(115) = 2.148; p = .034$).

Significant differences regarding nationality, penal situation, mastering of the Dutch language, and obtained education were found with regard to the **meso goal orientation** towards education. Respondents with Belgian nationality showed relatively fewer meso goal orientations (10.8%) compared to individuals with another European nationality (54.2%) and non-Europeans (64.6%) ($\chi^2 = 25.796, df = 2, p < .001$). Likewise, interned prisoners indicate significantly less a meso goal orientation (7.7%) compared to defendants (45.2%) and convicted
(44.1%) prisoners ($\chi^2 = 6.39, df = 2, p = .041$). Furthermore, prisoners who master the Dutch language “a little bit” or not at all (70.3%) demonstrate a relatively higher meso goal orientation compared to respondents who master the Dutch language very well (15.4%) ($\chi^2 = 34.88, df = 1, p < .001$). Respondents reporting a meso goal orientation towards learning had participated less in educational programs before incarceration ($M = 9.31; SD = 3.99$) compared to non-meso goal-oriented respondents ($M = 10.92; SD = 3.34$) ($t(110) = 2.31; p = .023$).

Respondents who had mastered the Dutch language, in turn, were overrepresented in the social ($\chi^2 = 6.92, df = 1, p = .012$) and learning orientation ($\chi^2 = 7.04, df = 1, p = .011$). Prisoners who do not master the Dutch language a little bit to not at all were underrepresented in both the social and learning orientation.

Prisoners with the shortest stay in prison (one week to one month) demonstrate a significantly higher normalization orientation: 79.2% of the respondents within this category indicated a normalization orientation, whereas prisoners with a duration of 2–6 months and more than 6 months, respectively, scored 54.0% and 36.1% ($\chi^2 = 10.74, df = 2, p = .005$). Furthermore, the decision time to participate in educational activities within the prison environment showed significant differences in expressing a normalization orientation. The normalization orientation was indicated fewer times by respondents who decided to engage in educational activities after about 3 months or more (36.8%) in comparison to more early deciders (about 1–2 weeks: 56.0%; about 1–2 months: 68.2%) ($\chi^2 = 8.11, df = 2, p = .017$). Concerning the orientation focusing on the continuation of previous learning experiences, only a tendency to a significant difference was found regarding the decision time to participate in learning activities. Most of the prisoners decided to participate in educational courses because of continuity reasons after about 1 to 2 months (36.4%). 28.9% made the decision to get enrolled after about three months or more. A minority (12%) made the decision between 1–2 weeks ($\chi^2 = 4.71 df = 2 p = .085$). As this is only a tendency towards a difference, the difference is rather tenuous.

No statistical differences could be detected with regard to the recommendation orientation because this orientation was cited insufficiently.

**Logistic regression: predicting motivational orientations.** All the variables in the bivariate analysis were significantly related (i.e., $p < .05$) or caused a tendency towards differences (i.e., $p < .10$) in at least one of the motivational orientations. Consequently, all these variables were included in the logistic regression analyses (see Table 5). Cases were excluded if they did not have an answer on all the variables included in the analysis or if the preliminary analysis indicated
Table 4. Bivariate analyses on the motivational orientation that stimulates prisoners’ participation in education

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Micro goal</th>
<th>Meso goal</th>
<th>A: Social</th>
<th>A: Normalization</th>
<th>Continuation</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% yes</td>
<td>% no</td>
<td>% yes</td>
<td>% no</td>
<td>% yes</td>
<td>% no</td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgian</td>
<td>62.2</td>
<td>37.8</td>
<td>10.8</td>
<td>89.2</td>
<td>32.4</td>
<td>67.6</td>
</tr>
<tr>
<td>Other European</td>
<td>58.3</td>
<td>41.7</td>
<td>54.2</td>
<td>45.8</td>
<td>20.8</td>
<td>79.2</td>
</tr>
<tr>
<td>Non-European</td>
<td>75.0</td>
<td>25.0</td>
<td>64.6</td>
<td>35.4</td>
<td>12.5</td>
<td>87.5</td>
</tr>
<tr>
<td>N = 119</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2(2) = 2.60$</td>
<td>$\chi^2(2) = 25.80^{***}$</td>
<td>$\chi^2(2) = 4.99^*$</td>
<td>$\chi^2(2) = 1.08$</td>
<td>$\chi^2(2) = 1.42$</td>
<td>$\chi^2(2) = 2.52$</td>
</tr>
<tr>
<td>Mastering Dutch language</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very well</td>
<td>67.3</td>
<td>32.7</td>
<td>15.4</td>
<td>84.6</td>
<td>32.7</td>
<td>67.3</td>
</tr>
<tr>
<td>A little bit to not at all</td>
<td>68.8</td>
<td>31.3</td>
<td>70.3</td>
<td>29.7</td>
<td>12.5</td>
<td>87.5</td>
</tr>
<tr>
<td>N = 116</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2(1) = .027$</td>
<td>$\chi^2(1) = 34.88^{***}$</td>
<td>$\chi^2(1) = 6.92^*$</td>
<td>$\chi^2(1) = .43$</td>
<td>$\chi^2(1) = .007$</td>
<td>$\chi^2(1) = 7.04^*$</td>
</tr>
<tr>
<td>Penal situation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defendant</td>
<td>66.7</td>
<td>33.3</td>
<td>45.2</td>
<td>54.8</td>
<td>14.3</td>
<td>85.7</td>
</tr>
<tr>
<td>Convicted</td>
<td>76.5</td>
<td>23.5</td>
<td>44.1</td>
<td>55.9</td>
<td>23.5</td>
<td>76.5</td>
</tr>
<tr>
<td>Interned</td>
<td>61.5</td>
<td>38.5</td>
<td>7.7</td>
<td>92.3</td>
<td>38.5</td>
<td>61.5</td>
</tr>
<tr>
<td>N = 89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2(2) = 1.33$</td>
<td>$\chi^2(2) = 6.40^*$</td>
<td>$\chi^2(2) = 3.61$</td>
<td>$\chi^2(2) = .28$</td>
<td>$\chi^2(2) = 1.05$</td>
<td>$\chi^2(2) = 3.50$</td>
</tr>
<tr>
<td>Decision time to participate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About 1–2 weeks</td>
<td>64.0</td>
<td>36.0</td>
<td>40.0</td>
<td>60.0</td>
<td>20.0</td>
<td>80.0</td>
</tr>
<tr>
<td>About 1–2 months</td>
<td>77.3</td>
<td>22.7</td>
<td>52.3</td>
<td>47.7</td>
<td>15.9</td>
<td>84.1</td>
</tr>
<tr>
<td>About 3 months or more</td>
<td>60.5</td>
<td>39.5</td>
<td>42.1</td>
<td>57.9</td>
<td>31.6</td>
<td>68.4</td>
</tr>
<tr>
<td>N = 107</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2(2) = 2.91$</td>
<td>$\chi^2(2) = 1.29$</td>
<td>$\chi^2(2) = 2.99$</td>
<td>$\chi^2(2) = 8.11^*$</td>
<td>$\chi^2(2) = 4.71^*$</td>
<td>$\chi^2(2) = 1.94$</td>
</tr>
</tbody>
</table>

(Continued)
Table 4. (Continued)

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Micro goal</th>
<th>Meso goal</th>
<th>A: Social normalization</th>
<th>Continuation</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% yes</td>
<td>% no</td>
<td>% yes</td>
<td>% no</td>
<td>% yes</td>
</tr>
<tr>
<td><strong>Length of incarceration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 week to 1 month</td>
<td>62.5</td>
<td>37.5</td>
<td>54.2</td>
<td>45.8</td>
<td>29.2</td>
</tr>
<tr>
<td>2 to 6 months</td>
<td>62.0</td>
<td>38.0</td>
<td>52.0</td>
<td>48.0</td>
<td>18.0</td>
</tr>
<tr>
<td>More than 6 months</td>
<td>77.8</td>
<td>22.2</td>
<td>30.6</td>
<td>69.4</td>
<td>19.4</td>
</tr>
<tr>
<td><strong>N = 110</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2(2) = 2.68$</td>
<td>$\chi^2(2) = 4.82^*$</td>
<td>$\chi^2(2) = 1.29$</td>
<td>$\chi^2(2) = 10.74^{**}$</td>
<td>$\chi^2(2) = .27$</td>
</tr>
</tbody>
</table>

**Educational participation before incarceration**

<table>
<thead>
<tr>
<th>Orientation indicated</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N = 112</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$t(110) = -.75$</td>
<td>$t(110) = 2.31^*$</td>
<td>$t(110) = .96$</td>
<td>$t(110) = -.90$</td>
<td>$t(110) = -.58$</td>
<td>$t(110) = .195$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Age**

<table>
<thead>
<tr>
<th>Orientation indicated</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation not indicated</td>
<td>32.01</td>
<td>9.27</td>
<td>33.15</td>
<td>10.09</td>
<td>34.36</td>
<td>11.73</td>
<td>31.95°</td>
<td>9.23°</td>
<td>31.36</td>
<td>9.69</td>
</tr>
<tr>
<td><strong>N = 117</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$t(115) = 2.148^*$</td>
<td>$t(115) = .23$</td>
<td>$t(115) = -.56$</td>
<td>$t(115) = 1.73$</td>
<td>$t(115) = 1.39$</td>
<td>$t(115) = .695$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *.10 ≤ p ≤ .05, *p ≤ .01, **p ≤ .001
Table 5. Logistic regressions: predictors of experiencing motivational orientations to participation in educational courses

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Micro goal°</th>
<th>Meso goal**</th>
<th>Activity: social*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision time to participate</strong></td>
<td>( B = -0.332 )</td>
<td>( SE = 0.460 )</td>
<td>( B = -0.073 )</td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgian</td>
<td>( B = -1.348 )</td>
<td>( SE = 1.09 )</td>
<td>( B = 1.317 )</td>
</tr>
<tr>
<td>Other Europe (1)</td>
<td>( B = -0.094 )</td>
<td>( SE = 0.871 )</td>
<td>( B = 1.937^* )</td>
</tr>
<tr>
<td>Non-Europe (2)</td>
<td>( B = 0.199^° )</td>
<td>( SE = 0.104 )</td>
<td>( B = 1.220^° )</td>
</tr>
<tr>
<td><strong>educational participation before incarceration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>( B = -0.113^** )</td>
<td>( SE = 0.042 )</td>
<td>( B = 0.893^** )</td>
</tr>
<tr>
<td><strong>Penal situation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defendant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convicted (1)</td>
<td>( B = -0.440 )</td>
<td>( SE = 0.732 )</td>
<td>( B = 0.644 )</td>
</tr>
<tr>
<td>Interned (2)</td>
<td>( B = -1.008 )</td>
<td>( SE = 1.04 )</td>
<td>( B = 0.365 )</td>
</tr>
<tr>
<td><strong>Mastering Dutch Language</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very well</td>
<td>( B = 0.923 )</td>
<td>( SE = 0.842 )</td>
<td>( B = 2.516 )</td>
</tr>
<tr>
<td>A little bit to not at all(1)</td>
<td>( B = 0.246 )</td>
<td>( SE = 0.467 )</td>
<td>( B = 1.279 )</td>
</tr>
</tbody>
</table>

Notes: \( N = 70 \). Significances: \(^*0.10 \leq p \leq 0.05\); \(^*p \leq 0.05\); \(^{**}p \leq 0.01\)

Micro goal orientation \( \chi^2(9) = 15.077, p = .089 \); Nagelkerke \( R^2 = .285 \)
Meso goal orientation \( \chi^2(8) = 30.092, p < .001 \); Nagelkerke \( R^2 = .539 \)
Activity: social orientation \( \chi^2(9) = 18.358, p = .031 \); Nagelkerke \( R^2 = .374 \)

(Continued)
Table 5. (Continued)

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Activity: normalization**</th>
<th>Continuation</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual- and prison-related features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision time to participate</td>
<td><em><em>.945 * (.431 .389</em>)</em>*</td>
<td><strong>.256 .421 1.291</strong></td>
<td><strong>.281 .392 1.325</strong></td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Europe (1)</td>
<td>.794 (.986 2.213)</td>
<td>.341 .940 1.407</td>
<td><strong>.148 .972 .862</strong></td>
</tr>
<tr>
<td>Non-Europe (2)</td>
<td><strong>.477 (.800 .621)</strong></td>
<td>.400 .825 1.491</td>
<td><strong>.711 .775 .491</strong></td>
</tr>
<tr>
<td>Educational participation before</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incarceration</td>
<td>.103 (.096 1.109)</td>
<td>.146 .101 1.157</td>
<td><strong>.064 .087 .938</strong></td>
</tr>
<tr>
<td>Age</td>
<td><strong>.071 ° (.039 .931 °)</strong></td>
<td><strong>.008 ° (.041 .907 °)</strong></td>
<td><strong>.059 ° .033 .943 °</strong></td>
</tr>
<tr>
<td>Penal situation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defendant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convicted (1)</td>
<td><strong>.484 (.680 .616)</strong></td>
<td><strong>.311 .638 .732</strong></td>
<td><strong>.931 .633 .394</strong></td>
</tr>
<tr>
<td>Interned (2)</td>
<td>.620 (.974 1.859)</td>
<td>.422 .964 1.525</td>
<td><strong>.442 1.073 .643</strong></td>
</tr>
<tr>
<td>Mastering Dutch Language</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A little bit (1)</td>
<td>.143 (.774 1.154)</td>
<td>.316 .774 1.372</td>
<td><strong>.074 .730 .928</strong></td>
</tr>
<tr>
<td>Length of incarceration</td>
<td><strong>1.387 ° (.487 .250 °)</strong></td>
<td><strong>.200 .400 .819</strong></td>
<td><strong>.113 .395 1.119</strong></td>
</tr>
</tbody>
</table>

Notes: N = 70. Significances: °0.10 ≤ p ≥ 0.05; *p ≤ 0.05; **p ≤ 0.01
Activity: normalization $\chi^2(9) = 23.279, p = .006, \text{Nagelkerke } R^2 = .379$
Continuation $\chi^2(9) = 9.797, p = .367, \text{Nagelkerke } R^2 = .185$
Learning $\chi^2(9) = 6.942, p = .643, \text{Nagelkerke } R^2 = .134$
the case as outliers in the independent variables or in the logistic regression model. In total, 70 cases are included in the final regression analysis.

The logistic regression model predicting micro goal orientation shows a tendency towards significance ($\chi^2(9) = 15.08, p = .089$; Nagelkerke $R^2 = .285$). Increasing age is associated with a decreased likelihood of having a micro goal orientation (odds ratio = .893, $p = .006$), in contrast to educational participation before incarceration, which is positively associated with likelihood of having a micro goal orientation: the higher the educational attainment, the more often a micro goal orientation is expressed (odds ratio = 1.220, $p = .055$).

The model predicting a social orientation towards learning ($\chi^2(9) = 18.36, p = .031$; Nagelkerke $R^2 = .374$) is significant. The decision time to participate and the penal situation both demonstrate a trend towards significance, indicating that the longer the time to decide to participate in educational activities, the more likely they are to partake in education because of a social orientation (odds ratio = 3.029, $p = .081$). Being a convicted prisoner (odds ratio = 6.686, $p = .060$) is also a positive predictor for the social orientation towards learning. Furthermore, respondents who master the Dutch language “a little bit to not at all” are less likely to be social oriented than prisoners that master the Dutch language very well (odds ratio = .086, $p = .032$).

With regard to the meso goal orientation, the model explained 54% of the variance (Nagelkerke $R^2$) in the meso goal orientation ($\chi^2(8) = 30.09, p < .001$). Nationality displays only a trend towards significance, showing non-Europeans to be more probable to exhibit a meso goal-oriented motivation (odds ratio = 6.936, $p = .090$). Both the level of mastering the Dutch language and the length of incarceration are significant predictors for the meso goal orientation. Respondents who master the Dutch language “a little bit to not at all” were, compared to respondents who master the Dutch language very well, more likely to indicate a meso goal orientation (odds ratio = 11.922, $p = .010$). Furthermore, the results indicate that the longer the incarceration time, the less likely one is to indicate a meso goal orientation (odds ratio = .326, $p = .050$).

The normalization orientation model was also found to be significant ($\chi^2(9) = 23.28, p = .006$; Nagelkerke $R^2 = .379$). An increasing length of the decision time to participate in prison educational programs (odds ratio = .389, $p = .028$) and increasing time of incarceration (odds ratio = .250, $p = .004$) are both associated with a decreased likelihood of exhibiting a normalization orientation. A (trend) significance was found for age (odds ratio = .931, $p = .064$), which means that the older a prisoner, the less likely he or she is to be motivated by motives related to normalization.
The logistic regression models predicting the continuation orientation ($\chi^2(9) = 9.80, p = .367$; Nagelkerke $R^2 = .185$) and the learning orientation ($\chi^2(9) = 6.94, p = .643$; Nagelkerke $R^2 = .134$) were not significant.

**Discussion and Conclusion**
Participation of prisoners in correctional education has diverse positive effects, such as desistance from crime (e.g., Blomberg et al., 2011; Shover & Thompson, 1992), rehabilitation and reintegration (e.g., Travis et al., 2001), and reduced recidivism rates (e.g., Alzúa et al., 2009; Davis et al., 2013; Kim & Clark, 2013). However, little is known about the prisoners’ motives for participation in educational programs (Brosens et al., 2013; Costelloe & Langelid, 2011; Delaere et al., 2013; Maggioncalda, 2007), and most of the existing research on this domain has been conducted in Northern countries (e.g., Manger and colleagues, 2009, 2010, 2012). The research focuses on convicted or long-term incarcerated prisoners (e.g., Delaere et al., 2013) and gives only limited attention to differences in motivational orientation between different groups of prisoners.

This study aims to gain more insight into the motivational orientations towards educational activities within a remand prison, including differences between different groups of prisoners. The results of this study show that 29% of the prisoners participate in formal educational programs within the prison before or during this study. This participation rate is comparable with other institutions in Flanders (Van Haegedoren et al., 2001) and to educational participation rates found within the Nordic region (Nordic Council of Ministers, 2005) and other European countries such as the UK, Netherlands, and Poland (Hawley et al., 2013). In the United States, however, half of the inmates participate in prisoner education (Harlow, 2003; Klein et al., 2004). This might be due to different regulations regarding educational participation, such as educational participation being obligatory or voluntary and receiving reimbursement.

Research question one focused on mapping the participation motives of prisoners. The results of this study are mostly in line with previous research within the prison environment (e.g., MacGuinness, 2000; Parsons & Langenbach, 1993). Most of the existing research on this domain has been conducted in Northern countries by Manger and colleagues (Eikeland et al., 2009; Manger et al., 2010, 2012). Learning because of intrinsic motivation is the most frequently indicated motive and is part of the learning orientation. Furthermore, the respondents mainly want to realize personal goals (micro goal orientation). In particular, earning a diploma or degree and making plans for the future are
the most important reasons within this orientation. Also, the normalization orientation is frequently mentioned, followed by the meso goal orientation. Social reasons and recommendations from others turn out to be of minimum impact on prisoners’ educational participation, which is in line with earlier research (e.g., Koski, 2009; Van Haegedoren et al., 2001).

As set out in research question two, the result of our study demonstrates that not every prisoner who participates in education has the same motivation to participate in prison educational programs, which complements previous research (e.g., Beder & Valentine, 1990; Manger et al., 2012). Some motivational differences were found. First, in particular, younger prisoners are motivated by a micro goal orientation. Koudahl (2009) argued that the youngest age group is more motivated to obtain a degree or diploma. It is conceivable that this is one of the reasons why this group is relatively more micro goal oriented. The results showed no significant age differences concerning the social orientation, in contrast to previous research (Koski, 2009; Koudahl, 2009; Manger et al., 2009a). Prisoners who do not master the Dutch language and non-European prisoners show a greater meso goal orientation. This is a sound conclusion as most of the items within the meso goal orientation are related with learning the Dutch language (i.e., I would like to learn Dutch to be able to talk to people on the outside/supervisor). It is probable that they use the language courses as a means of strengthening their social position. This communicative function of education was also found within both the general (Boshier, 1991) and prison population (Van Haegedoren et al., 2001). Further research is needed to examine these communicative motives in more detail. Furthermore, increasing length of incarceration and time to decide to participate in an educational activity go both hand in hand with a decreased likelihood of the presence of the normalization orientation. This could possibly be due to the, until then, only limited completion of the prisonization process (Haney, 2001). The longer the prisoner is staying within the institution, the more this prisonization process evolves. The individual gets used to the limitations resulting from captivity (Haney, 2001) and therefore is potentially less oriented towards normalization. Social orientation is mostly predicted by the level of Dutch language proficiency, indicating that prisoners who master the Dutch language very well are more likely to be social oriented.

**Limitations and Future Research**
The participation motives were questioned using nominal categorical variables (yes/no). We used this method because of the simplicity of the questioning, due to the low educational level of the respondents (e.g., Harlow, 2003; Hopkins,
This also means that the results show fewer nuances compared to other studies (e.g., Eikeland et al., 2009; Parsons & Langenbach, 1993): the prisoners indicated whether the motive was applicable or not, without a notion of how important the motive is compared to other motives. Future research might consider a subsequent qualitative research that goes more in depth. Moreover, it would be beneficial to survey the educational courses the prisoners are following or had followed, as in earlier research by Eikeland and colleagues (2009). Hence it is possible to uncover in which educational activities the prisoners participate in relation to their motives and motivational orientations. Furthermore, this might give us deeper insight into the group of prisoners that is non-Dutch speaking. De Ron and Tournel (2009) indicate that this group is mostly limited in following courses related to Dutch language because they often do not meet the language requirements of other courses. Questioning the courses followed by the prisoners might underscore this issue and therefore might give us more information on their learning motivation.

Further research in other (Flemish) prisons is recommended because of the specific context of the surveyed penitentiary, which is mainly a remand prison and thus houses prisoners mostly for a rather short time. It is possible that this specific context has an influence on the participation rates on the one hand and the participation motives on the other hand.

Finally, besides offering insights into the participation motives of prisoners, it would also be interesting to investigate the barriers that impede prisoners’ participation in educational courses. Several researchers have studied the barriers to participation in adult education in the general population and discovered that people are confronted with different kinds of obstacles like dispositional, institutional, and situational barriers (e.g., Cross, 1981; Darkenwald & Merriam, 1982; Flynn, Brown, Johnson & Rodger, 2011; Johnstone & Rivera, 1965). Nevertheless, the existing research on the barriers to participation in prison educational programs is scarce (Brosens, 2013) and only rarely uses the above-mentioned classification (e.g., Messemere, 2011). Gaining insight in both the barriers as well as the motives gives activity providers the possibility to develop educational activities that tackle pertinent participation barriers on the one hand and anticipates on prisoners’ educational motives on the other hand.

Practical and Policy Recommendation
This research empowers educational activity providers within prisons to respond to the educational motivation of prisoners while creating a differentiated
educational curriculum. Consequently, the activity providers can try to increase the amount of (educationally interested) prisoners that are involved in educational activities in prison. Educational activities best respond to the intrinsic motivation of prisoners and provide a certificate at the end of the course. The report from Hawley and colleagues (2013) already discloses that it is not only important to gain insight into what educational activities and support works, but also in “What works in different environments and for different offender groups” (p. 52). As this study demonstrates that different groups of prisoners have different motivational orientations to participate in educational activities, it is important to provide diverse educational activities that meet the motivational orientations of these different groups.

Furthermore, it is important to consider different ways of communication about the educational provision in order to inform all the prisoners who are interested in taking educational courses. As this study demonstrates, almost half of the respondents do not master the Dutch language very well or, for that matter, at all. Nevertheless, this group is an important target group for the NT2 classes (Dutch as Second Language). Moreover, low education and literacy levels (e.g., Hawley et al., 2013; Klein et al., 2004; Nordic Council of Ministers, 2005) are present in the prison environment. Therefore, it can be argued that, next to linguistic forms of communication, alternative ways of communication may also be considered, such as visual communication (e.g., using icons, oral information given by prison guards).

This study demonstrates the motivational aspects of prisoners in 2012. However, as Eikeland et al. (2009) mention, the prison population and their needs change over time. Therefore, it is important to regularly survey prisoners in order to stay tuned and permanently test the alignment between educational needs on the one hand and educational provisions on the other hand. Furthermore, it is important to give permanent attention to the continuation of educational activities when translocation or release from prison occurs.

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Vocabulary Instruction to Support the Career Readiness of Juvenile Offenders

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Abstract
Both literacy and career technical education are believed to be linked to better outcomes for juvenile offenders transitioning back to their communities after release. Therefore, this study employed a single group, pretest-posttest design to investigate the extent to which 13 juvenile offenders improved their understanding and completion of employment-related documents when provided vocabulary instruction embedded within a career readiness unit. The 24 target vocabulary terms were explicitly taught using a concept map and tested with items requiring knowledge of how the terms were applied in documents and related to each other. Students demonstrated significant improvement on the researcher-developed measure after six lessons, $t(12) = 6.35$, $p < 0.001$, $d = 2.02$. In addition, students learned to use the vocabulary concept maps quickly and were able to maintain a high level of accuracy with them across the lessons with only one exception. It took a couple of sessions for students to learn how to complete the associated documents with a high degree of accuracy, which was then maintained until students had to do more than fill in blanks.

Keywords: career technical education, document literacy, juvenile offenders

Vocabulary Instruction to Support the Career Readiness of Juvenile Offenders
The economic impact of juvenile commitment on the U.S. economy is staggering. It costs an average of $80,000 per year to commit one juvenile offender, which equates to $5.7 billion spent annually on all offenders combined (Sum, Khatiwada, McLaughlin & Palma, 2009). The rate of juvenile commitment in the United States is three times greater than that of the highest rates in other
developed nations (Hazel, 2008), and 50%–80% of the 81,000 youth released from custody each year will reoffend and recidivate (Sickmund, 2010). However, programs emphasizing career readiness skills and vocational literacy for youth offenders demonstrate promise for successfully transitioning youth offenders to their communities and securing gainful employment—thereby contributing back to local economies (Davis et al., 2014; Lipsey, 2009; McDaniel, Heil, Houchins & Duchaine, 2011; Snow & Powell 2011, 2012).

**Vocational/Career Technical Education for Youth Offenders**

A smooth transition from adolescence to adulthood is associated with living independently, establishing career goals, gaining and maintaining employment, participating in continuing and higher education, and forging positive relationships (Unruh, Povenmire-Kirk & Yamamoto, 2009). Vocational training (now commonly termed career technical education [CTE]) can assist with achieving these goals (Davis et al., 2014). Yet, youth offenders may not be able to realize the benefits of solely skills-based training because they often lack the tacit knowledge related to gaining employment, or the accumulated experience and know-how of identifying appropriate jobs and negotiating the application and interview processes (Davies & Tanner, 2003).

A longitudinal study by Weisner, Kim, and Capaldi (2010) confirmed that involvement with the criminal justice system is indeed linked to poorer young adult work outcomes. Data from the Oregon Youth System included 203 arrest records and self-reports on the young men’s work histories across the 9 years following their release. Among those individuals who were employed at the beginning of the observation period (i.e., at their 21st birthdays), 57.6% were engaged in semiskilled or unskilled work, and 6.8% served in the military. By their 29th birthdays, only 35.3% of those observed were gainfully employed in semiskilled or unskilled work, and 0.6% served in the military. The others were unemployed or had dropped out of the workforce. The researchers determined that juvenile arrests coupled with mental health problems were predictors for the number of months spent unemployed.

In partnership with the Center for Juvenile Justice Reform, the National Evaluation and Technical Assistance Center for the Education of Children and Youth Who Are Neglected, Delinquent, or At-Risk developed a series of practice guides for administrators and practitioners responsible for providing services for students in the juvenile justice system (Gonsoulin, Griller Clark & Rankin, 2015). According to the report, juvenile offenders must overcome a multitude of barriers to achieve their full potential and realize short- and long-term...
positive outcomes. Common circumstances among these youth include poverty, transience, addiction, school failure, and mental health issues. The many barriers compound to impede the likelihood of youth offenders making good decisions that ultimately will improve their future. Nevertheless, access to a high-quality education can improve the odds that committed youth will overcome their challenges and successfully transition from adolescence to adulthood (Gonsoulin et al., 2015; Leone & Weinberg, 2010).

In fact, one of the primary goals of Title 1, Part D, of the No Child Left Behind Act of 2001 (NCLB, Pub. L 107-110) is to provide the services necessary for juvenile offenders to transition to employment successfully. Gonsoulin et al. (2015) recommended that available government support be used to provide youth involved in the juvenile justice system with CTE and other educational programming that is essential to promoting positive citizenship and developing into productive and contributing young adults. The authors claimed that, similar to any young person, the likelihood of improving outcomes for individuals with a history of justice involvement may be heightened by achievement in career preparation courses. CTE development for committed youth may foster disengagement from criminal activity and promote exploration of potential opportunities for independent living (Ameen & Lee, 2012; Davis et al., 2014).

Additional federal support is available through the Second Chance Act of 2007 (Pub. L. 110-199), which was enacted to improve outcomes and provide recommendations for returning those released from prisons, jails, and juvenile residential facilities to their communities. A systematic review by the RAND Corporation highlighted the importance of providing correctional education (academic or vocational) for committed youth (Davis et al., 2014). The researchers concluded that youth involved in the criminal justice system were likely to benefit from programs that emphasized CTE skills. However, developing vocational skills alone have not been sufficient for reducing the rates of re-offending and recidivating or for ensuring application and transfer of knowledge to authentic settings (Achieve & National Association of State Directors of Career Technical Education Consortium, 2014; Lipsey, 2009). There may be additional academic skills or knowledge necessary, especially in the area of reading.

**Embedding Reading Instruction in CTE**

The high prevalence of reading difficulties among committed youth may limit their ability to take advantage of CTE offerings or compete for jobs upon their release (Leone, Krezmien, Mason & Meisel, 2005). In fact, several studies have documented that juvenile offenders’ reading abilities are significantly below
grade-based norms and the reading abilities of non-committed adolescents (Houchins, Jolivette, Krezmien & Baltodano 2008; Zamora, 2005). Moreover, language disabilities common among juvenile offenders include expressive and receptive vocabulary, syntax, and pragmatic skills (Snow & Powell, 2011). The disproportionate number of committed youth with literacy difficulties has led to the labeling of the U.S. juvenile justice system as the “default system” for students who have dropped out of school and have reading and writing deficits (Quinn, Rutherford, Leone, Osher & Poirier, 2005, p. 340). Hence, literacy instruction will be necessary for students to take advantage of CTE offerings.

As in any subject area, vocational skills require knowledge of particular vocabulary terms that communicate concepts and processes. Unfortunately, older students with reading difficulties not only know fewer words than their more capable counterparts, they also are less likely to possess the necessary background knowledge and strategic reading skills to discern the meaning of unfamiliar words they encounter (Nagy & Townsend, 2012). Therefore, carefully planned instruction in vocabulary is likely to support students’ learning in CTE. One means of teaching vocabulary and easing cognitive load when reading text is for students to focus on essential relationships among concepts (O’Donnell, Dansereau & Hall, 2002).

**Concept Maps.** Graphic organizers, such as concept maps, are diagrams that denote concepts and include labeled links that designate relationships among those concepts. The specific macrostructure represented by a concept map is intended to support students with limited prior knowledge in understanding the content they are studying (Gurlitt & Renkl, 2010; Lambiotte & Dansereau, 1992). A meta-analysis of 55 experimental and quasi-experimental studies involving 5,818 participants found that constructing, modifying, or viewing concept maps improved knowledge retention and transfer across several instructional conditions, settings, and methodological features (Nesbit & Adesope, 2006). In addition, the authors described a convergence of research supporting preconstructed concept maps as a beneficial communication tool for students with lower verbal proficiency.

Analyses of student exchanges during collaborative concept mapping activities in science classes have demonstrated sustained meaningful discourse and co-construction of key concepts (Stoyanova & Kommers, 2002; van Boxtel, van der Linden, Roelofs & Erkens, 2002). For example, van Boxtel et al. (2002) found that secondary science students, who worked in pairs to co-construct a concept map, articulated approximately three on-topic suggestions per
minute with similar levels of contributions from both members of the dyad. Concept maps are well suited to collaborative learning groups because text is abridged and can be easily transferred to other papers or media for sharing and display (Nesbit & Adescope, 2006). Because concept mapping does not require exhaustive writing tasks, more time can be devoted to discussion of substantive information (van Boxtel et al., 2002). In addition, concept maps can be used with a variety of text types, including documents.

**Document literacy.** As students progress through the grade levels, the texts they encounter are increasingly diverse and oriented to communicating information (Achieve, Inc., 2007). Among these text types are documents such as forms, graphs, charts, schedules, directions, and diagrams. The pervasive use of documents in adult life is evident in the inclusion of *document literacy* on the National Assessment of Adult Literacy (NAAL) along with prose and quantitative literacy (Kutner, Greenberg & Baer, 2005). Document literacy can be distinguished by its noncontinuous format (White & Dillow, 2005), meaning that documents are often designed to enable the reading of isolated portions for the purposes of doing (termed “read-to-do;” Mosenthal, 1996, p. 314) and not just reading for understanding. Even before the explosion of nonlinear content on the Internet, it was estimated that 50%–80% of occupational reading was devoted to processing documents for the purposes of completing tasks (Kirsch & Guthrie, 1984).

It has been established that individuals choose to employ different strategies for reading different kinds of documents (Mosenthal & Kirsch, 1992) and that familiarity with and repeated exposure to particular document types is associated with better reading performance (Cohen & Snowden, 2008). Nevertheless, few adults in developed nations reportedly are proficient in document literacy (c.f., Athanasou, 2012; Kutner et al., 2005). Despite the importance of these skills, we were unable to locate in the extant literature any experimental studies conducted to identify effective approaches for teaching students to read and use documents. In the absence of an evidence base, Rafferty (2000) recommended applying the same learning strategies (e.g., graphic organizers and explicit vocabulary instruction) used to support students in reading prose.

**Purpose and Research Question**
Clearly, committed youth need a variety of transition-related assistance including wrap-around services (e.g., Leone, Quinn & Osher, 2002), ongoing supports for diploma attainment (Cavendish, 2013), and employment support post-release.
Many of these services are outside the purview of educators in the juvenile justice system, so this study focused on a more limited but feasible aspect of contributing to a successful transition: literacy instruction embedded within a career readiness unit of instruction. Although extensive research has been conducted on using graphic organizers to support learning, no studies were identified that addressed the use of concept maps for teaching CTE vocabulary to juvenile offenders. Moreover, no studies were identified that addressed the use of graphic organizers to support document literacy. Given the importance of improving the reading and CTE performance of youth in the correctional system, the research question guiding this exploratory study was: to what extent do juvenile offenders improve their understanding and completion of employment-related documents when they are provided vocabulary intervention embedded within a career readiness unit?

**Methods**

This study was approved and overseen by an Institutional Review Board. Consent was granted by the director of the juvenile justice facility because the students were considered wards of the state. However, students were asked for and granted their active consent to participate.

**Participants and Setting**

The facility was located in a rural area of the southeastern United States and provided moderate risk, staff-secure residential care to males ages 13–17. The average length of stay was 9–12 months, so those who had been committed while they were 17 often turned 18 during their period of confinement. Students were assigned to one of four dormitories, each with a maximum capacity of 10 boys. State requirements for the education of juvenile offenders stressed CTE programming, so the students spent approximately 3.5 hours per day in self-paced, computer-delivered instruction on core academic subjects and the remainder of the day in hands-on carpentry or welding instruction. Those who had achieved a designated behavioral level were allowed to participate in on-the-job training with the Department of Transportation.

After school hours, the facility provided various recreational and personal growth opportunities through a Boys and Girls Club chapter. For the purposes of exploring its utility, the career readiness unit was offered as a voluntary option during the Club time. A master’s student in special education served as the interventionist and delivered all instruction. Thirteen students, whose
characteristics are presented in Table 1, agreed to participate. Their mean age was 16 years, 5 months; their mean grade level was 10.25. About 31% of the participants were officially identified with an emotional or behavioral disorder (EBD), but several others were being treated with mood altering medication. Under identification of EBD is a known problem within juvenile justice settings (Watson, Kelly & Vidalon, 2009), and estimates are that 50%–75% of detained or committed youth suffer mental illness (Burrell, 2006).

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*Note: GED = in preparation for the general educational development test rather than a standard high school diploma; EBD = emotional behavioral disorder; OHI = other health impairment*
Research Design
Although single group, pretest-posttest designs do not meet quality indicators for establishing evidence-based practices (cf. What Works Clearinghouse [WWC], 2014), it was deemed an appropriate approach for three reasons. First, the facility personnel did not want any study volunteers to be denied instruction. Several students’ pending release dates precluded experimental designs that would have required staggered or delayed entry into treatment such as multiple baseline across participants or a lagged treatment control group. Second, vocabulary knowledge and document literacy are nonreversible skills. Once learned, we would not expect a decrement such as would be necessary in a reversal design. Finally, students were not receiving any instruction in the content used in our study or in document literacy in general, so there was not a concern about ruling out alternative explanations for gains in students’ knowledge. As an exploratory study, the interest was only in whether or not the kind of instruction planned and delivered was associated with improvements in juvenile offenders’ career readiness skills.

Measures
The interventionist administered all measures in a typical classroom at the facility. Students took the pretests the week before the lessons began, and the posttest the week after the lessons concluded. Scores were first determined by the second author and subsequently checked by the first author when preparing the dataset for analysis. Inter-rater agreement was 100%.

General reading ability. The Test of Silent Contextual Reading Fluency-2 (TOSCRF; Hammill, Wiederholt & Allen, 2014) was used at pretest to screen students’ general reading ability. The group-administered measure presents a series of sentences of increasing lengths that are written in all capital letters with no spaces between the words. Test takers have 3 minutes to insert slash marks denoting the separations of the words that make up the sentences. The TOSCRF has demonstrated strong correlations ($r = .69$ to $.71$) to the Woodcock Johnson-III Broad Reading score. Students’ percentile ranks were used for analysis.

Career readiness vocabulary knowledge. A 21-item pre/posttest was developed to assess students’ knowledge of the 24 vocabulary terms taught in the six lessons (see section on intervention materials). Because the vocabulary terms were related, items included targeted terminology in the stems and the answer options, thus necessitating fewer overall items than the number of target terms.
The following sample item has the vocabulary in italics for illustration purposes—these were not italicized on the actual test:

What is the purpose of an I-9 form?

A. So an employer can *withhold* the correct federal income tax from an employee’s pay
B. To determine the *tax refund* due from the government
C. To build an employee’s *resume* when applying for a job
D. For *verification* of the identity and *employment authorization* of each new employee

Target vocabulary may have been used more than once throughout the 21 items, providing several opportunities to confirm students’ understanding of the definitions and use. The first six items on the test were true/false, and the remaining 15 items were multiple-choice with four answer options each. Raw scores were used for analysis.

**Weekly session performance.** In each week, students completed one vocabulary concept map and one document as described in the intervention materials and procedures sections. The interventionist collected these papers and graded them for accuracy and completeness. Because each map and document contained a different number of items, percentages correct were recorded and used in the analysis.

**Intervention Materials**

Each of the six lessons was focused on a different document: application form, resume, W-4 form, 1040 tax form, I-9 form, and interview questions or open-ended application questions. The research team gathered authentic versions of the documents—or templates that could be used to create the documents (i.e., resume, interview questions)—and developed fictional samples of completed documents. For lessons on documents that did not have a single prescribed form, such as application, several samples of applications for a job, health insurance, and bank account were generated in order to highlight the information that was similar and different across each type of application. For lessons on documents that had only one form, such as the W-4, samples of the completed form were included as well as scenarios for determining the amount of withholding to record.
Across the documents used in the lessons, the research team identified 24 unique vocabulary terms to target. These are described as terms rather than words because the target vocabulary might be a single word, such as termination, or multiple words such as tax deduction. The criteria applied to select the terms included: (a) appeared on multiple documents in the six lessons, (b) was important for understanding the documents, (c) had a technical definition that was likely to be unknown by the students, and (d) was included in information obtained from a university-based career center. For each term, the research team created a partially completed vocabulary concept map, using the template provided in Figure 1. All concept maps included a term in the central box and a simple definition in the circle, but the other components of the map varied based on the particular term: the number of rectangular boxes for the important parts or features of the document and the number of triangles for when the document might be used. Consistent with the intended format and use of concept maps (Gurlitt & Renkl, 2010), all labels for and links among components conveyed how the information was related.

Figure 1. Sample Concept Map
Procedures
Sessions were held on Tuesday and Thursday afternoons for approximately 45 minutes each day. The first week of the study, students completed the pretest measures and were introduced to the purpose of the lessons. The interventionist explained that students would be learning how to complete important documents related to employment and the special vocabulary terms used on the documents. She displayed a sample concept map and briefly described each component of it. The introductory lesson ended by asking the students about the kinds of documents they thought would be important when getting a job in the community.

A complete lesson spanned two sessions each week for six weeks. On Tuesdays, the interventionist introduced new terms to the students by writing the vocabulary in the central box of the concept map, pronouncing it, and providing a simplified definition. Then, she showed the students samples of completed forms, used guided questioning to highlight similarities and differences across the samples, explained any directions printed on the documents, and explicitly taught related terms used within the documents. Finally, the interventionist had students use the information they learned to complete the remainder of the concept map collaboratively. As students worked together, they could refer back to the sample documents to identify the important parts or features and suggest when the documents would be used. When necessary, the interventionist offered corrective feedback or instructed students to use a particular vocabulary term to describe the feature or use of the documents. For example, in completing the concept map on the I-9 form, the term employment authorization was included in the description of one feature: establish employment authorization.

On Thursdays of each week, the interventionist displayed a correct version of the vocabulary concept map from Tuesday and provided a brief review of the terms in that map. Then, she had students individually practice completing a document of that week’s type while she monitored and provided feedback.

Treatment Integrity
Lesson preparations and delivery were monitored by the first author throughout the study, using a protocol developed specifically for the intervention. The interventionist’s adherence to the study procedures was judged to be 88%, which is interpreted as high fidelity (Bryant et al., 2000).

Results
Descriptive data are provided in Table 2. The TOSCRF scores, $M = 124.69$, $SD = 25.92$, were slightly below normal (percentile rank $M = 38.77$), and
students’ average pretest score \( (M = 13.31 \text{ or about 62% correct}) \). Together, these results suggested the participants had some difficulty reading and possessed only partial knowledge of the career readiness vocabulary prior to participating in the intervention lessons. The average posttest score \( (M = 17.31 \text{ or about 81% correct}) \) demonstrated improvement, so the data were assessed for normality to determine whether parametric or nonparametric analysis of pretest-posttest mean differences should be conducted. Skewness and kurtosis values fell within acceptable ranges, and the Komogorov-Smirnov test revealed the distributions of the career readiness vocabulary scores did not deviate significantly from a normal distribution \( (D = 0.140 \text{ for pretest and 0.179 for posttest}; p = 0.200) \).

Therefore, a paired samples \( t \)-test was performed and indicated that students significantly improved their document literacy, \( t(12) = 6.35, p < 0.001, d = 2.02 \).

To determine whether students’ performance on the weekly vocabulary concept maps and documents demonstrated improvement, the average percent correct on each measure was graphed and the plot lines visually inspected (see Figure 2). Performance on the concept maps started high (i.e., above 90% correct) but noticeably declined in Session 3 when students were learning the vocabulary related to W-4s (78% correct). Scores in sessions 4–6 ranged from 90% to 94% correct. Students started with lower scores on completing the documents (78%–79% in sessions 1–2), but these increased in weeks 3–5 (88%–90% correct). They dropped slightly in session 6 (83% correct) when the lesson required students to do more productive planning for responding to interview questions.

**Discussion**

Results of this single group, pretest-posttest design study indicated students significantly improved their understanding of employment-related vocabulary after only six lessons that utilized a concept map and offered practice in

---

### Table 2. Means and standard deviations on pre-/posttests

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( M ) ( (SD) )</td>
<td>( M ) ( (SD) )</td>
</tr>
<tr>
<td>(( N = 13 ))</td>
<td>(( N = 13 ))</td>
<td></td>
</tr>
<tr>
<td>TOSCRF score</td>
<td>124.69 (25.92)</td>
<td>N/A</td>
</tr>
<tr>
<td>Career Vocabulary raw score</td>
<td>13.31 (1.89)</td>
<td>17.31 (2.06)</td>
</tr>
</tbody>
</table>

*Note. \( M \) = mean; \( SD \) = standard deviation; TOSCRF = Test of Silent Contextual Reading-2 Fluency; N/A = not applicable*
completing relevant documents. The test items required knowledge of how the 24 target terms were applied within and across documents as well as how the vocabulary were related to each other. This was a more stringent test of students’ understanding than simply recognizing a definition for a term in isolation, and it reflected the instructional approach to the vocabulary as concepts within a framework of information. Such a level of application should more accurately reflect students’ document literacy, or their ability to “read-to-do” (Mosenthal, 1996, p. 314).

Document literacy is considered a critical element of successful adult reading (Kutner et al., 2005). But even with explicit instruction and sample versions of completed documents, the juvenile offenders in this study were not masterful in their weekly lessons. It took a couple of weeks for students to learn how to complete the documents with a high degree of accuracy (i.e., 88%–90%). This was then maintained until students had to do more than fill in blanks. When the final lesson required students to write complete sentences in preparation for responding to interview questions, their performance declined to 83%. This was near, but still above, their scores in the first couple of lessons
Knowledge of using the concept map to learn the 24 employment-related vocabulary terms seemed easier for students to acquire. They maintained high levels of accuracy (i.e., 90%–96%) throughout the six lessons, with only one exception. Students demonstrated more difficulty (i.e., 78% accuracy) with the map for terms associated with a W-4. This form includes vocabulary for different filing statuses, tax credits, and withholdings: head of household, dependent care, child tax credit, deductions, multiple earnings, etc. In the sequence of lessons, it preceded the 1040 Tax Form and the I-9, so it was used to build more thorough background knowledge that could be carried into the subsequent lessons. The added vocabulary load and complexity might be expected to challenge students who otherwise were quite successful at using the concept maps.

Practical Implications

Overall, the results of this study offer initial support for Rafferty’s (2000) supposition that evidence-based practices for prose reading, such as graphic organizers and explicit vocabulary instruction, would also support students’ document literacy. The present study relied upon a type of graphic organizer, an instructional tool with a rich research base establishing its effectiveness (cf. Nesbit & Adesope, 2006). However, simply giving students a concept map likely would not be sufficient for helping them learn the information. That is, as a tool for learning, the concept map’s benefits are dependent upon the quality of the instruction as a whole.

This study employed explicit instruction in vocabulary, opportunities for peers to work together on the concept maps, and models of how to use the associated documents. The vocabulary concept map was embedded in a career readiness unit because both CTE and reading skill development are among the elements believed to be linked to better outcomes for juvenile offenders transitioning back to their communities after release (Ameen & Lee, 2012; Gonsoulin et al., 2015). Although many more supports and post-transition services are required for juvenile offenders to be successful (Bullis & Yovanoff, 2006; Cavendish, 2013; Leone et al., 2002), most are outside of the control of the teachers within juvenile justice facilities. This study explored literacy instruction and CTE as feasible elements for teachers to incorporate. Moreover, the lessons offered students multiple examples and practice completing employment-related documents in acknowledgment of the role document
literacy plays in adulthood (Achieve, Inc., 2007; Cohen & Snowden, 2008). Building student competence, allowing for collaboration, and assigning tasks with relevance to the real world are among the factors that foster student motivation (Guthrie & Klauda, 2014).

**Limitations and Directions for Future Research**

Components of the instruction were intended to be motivational. But because participants volunteered for the instruction in an after-school program, it is possible they already had higher intrinsic motivation than might typically be found among juvenile offenders. In addition, students may have had strong rapport with the interventionist, further engendering their interest in learning and doing well. Motivation increases the amount of energy and attentional resources devoted to a task, thus improving performance (Ryan & Deci, 2000). Hence, students who were required to participate in the vocabulary and employment-related document literacy instruction or who had been taught by a different teacher might not have demonstrated similar rates or levels of improvement. Future research is warranted to investigate outcomes when the instruction is implemented by typical correctional educators within the usual school day.

Ideally, such research would employ experimental designs. Although deemed appropriate for accommodating the juvenile justice context, the design of this study precludes it from contributing to an evidence base for the instructional practices employed (WWC, 2014). Researchers have struggled to implement rigorous research designs in these settings (see the review by Davis et al., 2014), leaving correctional educators with scant guidance for improving the outcomes of their students. High-quality experimental studies are considered necessary for making causal inferences, in part because they control for other possible influences on students’ performance. Yet confinement inherently exerts more control over participants than otherwise would be experienced in a school setting. Students in this study received discretely prescribed instruction unrelated to the content of the intervention, could not carry materials back to their living units for reviewing outside of the classroom, and had no access to incidental learning opportunities (e.g., recreational Internet searches, mentoring) in the targeted content. In addition, knowledge of the vocabulary or documents would not be expected to improve spontaneously over six weeks. Hence, comparisons to a baseline condition or a group of students not receiving the intervention seem less crucial for evaluating its merits.
A more worthwhile experimental comparison would be to examine the long-term outcomes of students who received only the skills-based training in carpentry or welding with those who also received the vocabulary and document literacy instruction in their CTE. Because the study was not longitudinal, it was not possible to determine whether improvements on the dependent measures were related to attaining transition goals such as higher rates of employment or decreased recidivism. Future research should consider not only the proximal learning gains, but also the distal outcomes of adulthood including employment and participation in further education (Unruh et al., 2009).

Conclusion
Despite the limitations noted above, this study demonstrates the feasibility and utility of embedding vocabulary instruction within a career-readiness unit for juvenile offenders as one potential element of preparing them for release. The presently dire prospects for these adolescents make it imperative to improve their education while they are committed (McDaniel et al., 2011; Sickmund, 2010; Snow & Powell, 2012; Weisner et al., 2010). As Ameen and Lee (2012) poignantly stated, “If detained youth are not included in vocational development literature and programs, they will forever be disconnected and criminalized” (p. 99).

References
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Career Readiness of Juvenile Offenders

Deborah K. Reed et al.


Biographical Sketch

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An Analysis of Career Thinking and Career Interests of Incarcerated Males

Nicholas C. Derzis
Jill Meyer
Rebecca S. Curtis
Margaret E. Shippen

Abstract

Individuals with barriers to employment such as people with disabilities or people who transition from prison to the community face different challenges in navigating the world of work. Participants in this study were incarcerated males (n = 87) who completed the Career Thoughts Inventory (CTI) and the Self-Directed Search (SDS), in addition to self-reported demographic information including disability status. This study examined the relationships among positive or negative career thoughts using the CTI and career interests using the SDS. Results of this study provide a rich description of the sample and indicate statistically significant relationships among participants’ generational affiliation and the CTI subscale, Commitment Anxiety. Statistically significant relationships were also identified among participant’s race and the dominant career interest code as measured by the Self-Directed Search.

Keywords: career development, incarceration, re-entry, vocational counseling

Employment is an important life function that enables people to sustain themselves in many ways. Work provides people with a reason to get up every day, the opportunity to engage in social networks, ways to exercise passion, and the ability to experience financial sustainability. Individual life experiences, culture, personality, interests, and abilities contribute to an individual’s career development. People want to do what they enjoy, and when they get paid to do what they enjoy, the average person is going to experience congruence among their work environment, interests, and personality (Bissonnette, 1994). Career selection is more than a mere decision; it’s a complex process. Moreover, work
is central to an individual’s life as it provides economic self-sufficiency and a professional identity, and is affected by individual, economic, social, and cultural factors (Blustein, 2008; Szymanski & Parker 2010).

Besides the economic benefit of a paycheck, work also provides other, more intrinsic rewards such as the opportunity to create new human relationships. These human relationships provide social interaction and friendships that help make a job a career. Other benefits of employment include helping one’s self-esteem, self-efficacy, and feelings of achievement and task competency or mastery (Herr, Cramer & Niles, 2004). With this much emphasis placed on the relationship between an individual’s positive self-worth and a positive employment experience, career development services are an important contribution to society and culture. Career development programs exist to assist people in work transition to achieve their goals, both extrinsic and intrinsic. Individuals who may be in need of career development services are those who face obstacles in relation to successfully achieving these goals. Such obstacles may be due to a disability, an arrest record and/or subsequent incarceration, or someone experiencing a transition from one job to a new job or career (Bissonnette, 1994). Individuals seeking career development services are often unemployed or underemployed (Raphael, 2007).

Generational Comparison

Parks (2009) identifies four generations of individuals participating in the workforce. The four categories are (a) Veterans/Traditionalist, (b) Baby Boomers, (c) Generation X, and (d) Millennials. Each generation has uniquely generalized characteristics that can be found in the workforce. First, the Veterans/Traditionalist generation represents individuals born between the years 1925–1945, and is the eldest generation working. Individuals born during this time frame lived through the Great Depression, and have seen the workforce change in marked ways. This generation is also the first to see women in factories, doing work that was considered previously suited only for men. Worker characteristics of Veterans/Traditionalist are that this generation likes things to be consistent, uniform, and standardized. This group also believes in conversation staying on appropriate topics and not disclosing too much personal information. Veterans believe in rules, law and order, the value of money, and are often brand loyal to American manufacturers.

Next, Baby Boomers are the generation born between the years 1946–1964. To date, this is the largest generation currently working, comprising 53% of the workforce (Schroeder & Zeller, 2005). The Baby Boomers generation
began in 1946 and did not end until 1964, when the birth rate dropped below 4 million for the first time since the beginning of the boom. Worker characteristics of this generation are that these individuals believe in growth and expansion, are often optimistic, and think of themselves as “cool.” As this generation begins to fade out of the workforce, there will be many vacancies to fill in the American job market.

Generation X is the group of individuals born between the years 1965–1978. This is the first generation of people who came from homes likely to have two working parents or a single parent, often called “latchkey kids.” This generation values a 40-hour work week, not a 60-hour work week like many of their parents. This generation’s work ethic is often described as self-reliant, desiring balance between work and personal life, preferring informality, and having a casual approach to authority. The core values of this generation include individualism and cynicism, yet there is a true tolerance for diversity in culture and lifestyle. Finally, this generation is more “tech savvy” in comparison to their predecessors the Baby Boomers (Parks, 2009).

The youngest generation that is currently in the workforce is the Millennials. The Millennials are individuals born between the years 1979–2001. It is believed that Millennials are the busiest, and therefore the most stressed, generation to date (Raines, 2002). Worker characteristics for the Millennials are that this generation has more to offer employers in terms of volunteer experience, internships, part-time jobs, and knowledge from their education. The core values of this group center on being optimistic, social, and open to new ideas. This generation has also been raised with technology at their side. Millennials are very connected with the Internet, cellular phones, and PDAs. Diversity clearly includes age differences and generational perspectives.

World of Work
In order to effectively address the underemployment and unemployment of diverse populations, service providers, researchers, and policy makers may be required to provide and develop multidimensional evidence-based strategies in career development (Herr, Cramer & Niles, 2004). The world of work can often be plagued by barriers to employment, especially for diverse populations. A group that has historically experienced problems with gaining employment includes individuals who have exited prison. This population is significantly large and will likely grow as a result of the recent announcement by the U.S. Attorney General regarding the need to relieve prison overcrowding and mass incarceration in the United States.
In the United States at 2012 year-end, more than 6.9 million adults were in prison, in jail, on probation, or on parole (Glaze & Herberman, 2012). Over 1.4 million are incarcerated in state and federal prisons at any given time (Hrabowski & Robbi, 2002). The Educational Testing Service conducted a study and found that the crime rate has essentially remained flat over the last 20 years, yet the U.S. prison population has tripled since 1980 (Hrabowski & Robbi). In 2008, the United States had approximately 13 million ex-offenders of working age living in communities across the nation (Schmitt & Warner, 2010). Over 90% of ex-offenders are men, which impacts the employability rate of males nationwide. Therefore, the sample in this study is made up of males.

There are currently 1 in 100 people in prisons or jails in the United States, with the majority of these people exiting institutions and transitioning back to communities (Pew Report, 2008). Ex-offenders living in communities around the country are experiencing high levels of unemployment when compared to the general population. Employment rates for those who have experienced incarceration are estimated to be approximately 15%–30% lower than the general population at any given time (Schmitt & Warner, 2010).

In prisons, it was found that at least a third of state inmates have a mental or physical disability (Maruschak & Beck, 2001). Disability can oftentimes complicate the world of work due to specific individual needs, in addition to a felony record affecting employment pursuit, and the barriers become nearly insurmountable (Unruh, Gau & Waintrup, 2009).

Research indicates that spending time in prison or having a felony can have a substantial negative effect on future employment. Spending time in an institutional setting such as prison limits involvement in all domains of life, including employment (Raphael, 2007). Spending time in prison can also prove to be a financial nightmare. For inmates with child support obligations and expenses for restitution, exiting prison in a successful transition can be hard due to large paycheck deductions, once employed (Holzer, Raphael & Stoll, 2004). For the first time in history more than 1 in every 100 adults in America is in jail or prison (Pew Report, 2008). Additionally, a large number of these offenders have diagnosed and undiagnosed disabilities and are in need of rehabilitation services they will never receive (Harley, 1996).

Maruschak and Beck (2001) found that nearly one third of state inmates and a quarter of federal inmates report having some physical or mental condition. The high number of incarcerated individuals with disabilities signifies a need for concerted assistance when re-entering society, specifically concerning employment. Offenders with and without disabilities typically have high rates
An Analysis of Career Thinking

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of unemployment prior to incarceration. James and Glaze (2006) found that 30% of individuals in state prison, 28% in federal prison, and 33% in local jails were unemployed prior to incarceration. They also found that 38% of state and federal inmates and 47% of jail inmates who were mentally ill were not employed in the month prior to arrest (James & Glaze, 2006).

Recently, Derzis, Shippen, Meyer, Curtis, and Houchins (2013) conducted research exploring the career interests of incarcerated males. Their findings were that the majority of their sample reported career interests with the first letter code of the Holland code as R (realistic). Curtis, Derzis, Shippen, Musgrove, and Brigman (2013) found that often inmates report the kind of work they want to do for future work was a job they previously held. Further exploration in this area of research is needed in order to determine what the career interests of incarcerated individual’s means for practitioners and those re-entering into society.

The purpose of the present study was to investigate the relationship between two important factors related to the career needs of incarcerated men as they exit prison and transition back into communities. This study examined the career thoughts participants have about the world of work and their reported career interests. Dysfunctional career thoughts are cognitions related to behaviors, beliefs, feelings, plans, and/or strategies that prevent effective career problem solving and decision making (Sampson, Peterson, Reardon, Lenz, Reardon & Saunders, 1996). Gaining an understanding of career interests and knowing which occupational fields match vocational interests assist in self-understanding and career exploration. By gaining a better understanding of the dysfunctional career thoughts and relationship among career interests, practitioners providing services to individuals transitioning out of prisons can have a better idea of the unique barriers to the world of work this population faces with career selection and career success.

**Method**

The purpose of this study was to examine the relationships among career interests as measured by the Self- Directed Search (SDS; Holland, 1994) and career thinking as measured by the Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon & Saunders, 1996) for incarcerated males. The specific variables of interest in this study were career interest and career thinking of incarcerated males, along with age/generation, race, education level, type of disability, length of incarceration, and whether the participant is a repeat offender.
Participants
The participants in this study were men \((n = 87)\) who are incarcerated at a medium security facility in the southeastern United States. Medium security prisons house inmates that (a) have not committed capital crimes, (b) are not on death row, and (c) are eligible for parole. The participants were inmates that participated in a mandatory re-entry program. A reentry program typically consists of sessions providing information on services in the community available after release including educational and vocational opportunities. During this program inmates are 90 days or less from release or a parole hearing. Re-entry programs are usually broken into modules: (a) addiction and recovery; (b) job, career, communication, and financial skills; (c) faith, communication, and character-building skills; (d) health education, screening, and referrals; (e) family re-integration; and (f) law enforcement (Alabama Department of Corrections, 2013).

A purposive selection of participants was used for this study. Although a sample of convenience, this population is representative of incarcerated individuals transitioning back to the community to reintegrate into employment and society. The goal of this research project was to gain a better understanding of an inmate’s career thinking and readiness for work during the transition period, and the relationships that exist with career interests. By accessing participants from the re-entry program, information on career thoughts and barriers was obtained.

Measures
The Self-Directed Search (SDS; Holland, 1994) inventory was used in this study. The SDS is a well-known vocational interest inventory that has been used by over 22 million individuals and translated into 25 languages. Psychological Assessment Resources (1994) reported that the SDS continues to be the most widely used measure of a person’s fit to a preferred vocational setting. Psychometric studies have suggested that the SDS is a reliable and valid interest inventory. Therefore, the SDS has been used with great confidence and utility in the career guidance field (Rayman & Atanasoff, 1999). Specifically, the three-letter occupational code reflects an individual’s likes and dislikes and demonstrates how these factors relate to various work environments (Rayman & Atanasoff). There are six occupational code types: Realistic (R), Investigative (I), Conventional (C), Artistic (A), Enterprising (E), and Social (S). Each of these represents a different occupational group (Holland, 1997) (see Figure 1). The three-letter occupational code is yielded by identifying the individual’s three strongest occupational types from the Holland’s typology, with the highest
recorded type being the first letter of the code, the second highest type being the second letter of the code, and the third highest type being the third letter in the code.

The SDS is administered as a forced-choice questionnaire, with exception of the ‘daydream’ section, which uses open-ended items. The SDS consists of 198 items and is completed in 30 minutes. It is written at the ninth grade reading level. All versions of the SDS have been tested for reliability. The most recent version (1994) reported test-retest reliability ranging from .76 to .89, for adults with testing intervals from 4 to 12 weeks (Holland, Fritzche & Powell, 1997). Internal consistency coefficients for the Activities, Competencies, and Occupations scales range from .72 to .92, while the summary scale coefficient ranged from .90 to .94. Correlations between the two self-estimates sections range from .37 to .84, indicating some variance (Holland, Fritzche & Powell, 1997).

The Career Thoughts Inventory (CTI) is based on the cognitive information processing (CIP) theory on career development and career services (Sampson, 1997).
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Peterson, Lenz, Reardon & Saunders, 1996). The CTI can be used as a screening measure, a needs assessment measure, or as a learning resource. The CTI can screen individuals to assess their current level of negative career thinking and identify the specific nature of their dysfunctional thinking. Additionally, the assessment can be incorporated with various counseling interventions to improve negative career thinking (Sampson et al., 1996). Individuals complete the CTI by responding to each of the 48 item statements using a 4-point Likert-type scale (0 representing Strongly Disagree to 3 representing Strongly Agree), and can be completed in 7 to 15 minutes and scored in 5 to 8 minutes (Sampson et al., 1996).

The CTI yields a total score and three subscale scores (Sampson et al., 1996). The CTI total score is a single global indicator of dysfunctional thinking in career problem solving and decision-making. The three subscale scores are Decision-Making Confusion, Commitment Anxiety, and External Conflict. The Decision-Making Confusion scale reflects difficulty initiating or continuing the decision-making process due to immobilizing emotions and/or a lack of understanding on how to make a decision in general. An example of an item from this scale is “no field of study or occupation interests me” (Sampson et al., 1996). The Commitment Anxiety scale reveals an inability to make a commitment to a specific career choice or path, accompanied by generalized anxiety about the decision-making process. An example of an item from this scale is “my interests are always changing.” The External Conflict scale reflects difficulty balancing the input from significant others and the individual’s own thoughts on important decision-making processes. An example of an item from this scale is “I know what job I want, but someone’s always putting obstacles in my way” (Sampson et al., 1996).

The CTI was developed through a rational-empirical approach and has been empirically shown to be a reliable and valid measure of dysfunctional career cognitions (Sampson et al., 1996). The CTI scales are internally consistent and stable (test-retest correlation for the CTI total score = .77). The assessment also has reasonable content, convergent, criterion-related, and construct validity (Sampson et al., 1996).

The CTI has been used in several studies to show how evaluating negative career thoughts can be an essential starting point to efficiently solving an individual’s career problem (Meyer-Griffith, Reardon & Hartley, 2009; Paivandy, Bullock, Reardon & Kelly, 2009; Sampson, Reardon, Peterson & Lenz, 2004; Strauser, Lustig, & Ciftci, 2008; Sud & Kumar, 2006). The CTI has also been used to examine negative cognitions in individuals with disabilities (Lustig & Strauser,
The relationship found between negative career thoughts and disability may be applied to prison populations due to the high incidence of disability among offenders (Musgrove, Derzis, Shippen & Brigman, 2012).

Procedures
Upon approval from the Institutional Review Board (IRB), the administration of the Self-Directed Search and the Career Thoughts Inventory took place during a re-entry program at the correctional facility described above. The data collection was part of a presentation on job searches and obtaining a job upon release. The first author explained the purpose of the presentation and the data collection. The participants were consented and then completed the demographic sheet and surveys. Each survey was read aloud to control for variability in reading level.

Data Analysis and Results
Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 21.0. Data were analyzed descriptively and analytically. Correlation coefficients (Pearson product-moment correlation coefficient and Kendall’s tau) were calculated for primary variables in this study to see if statistically significant relationships existed among the first letter of the SDS code and CTI overall scores and subscales (Huck, 2009; Salkind, 2008). Additionally, analysis of variance (ANOVA) was used to examine between group differences.

Descriptive Results
Demographic characteristics were identified through descriptive data requesting participants to indicate their status as to repeat offender, length of incarceration, generational affiliation, race, presence of a disability as identified by the participant, and educational status.

Participants who identified as repeat offender included 43 of the 87, or 49%. Length of incarceration was defined as number of years incarcerated. For this item, 54% of the participants indicated 1–3 years of incarceration, 18% reported 4–8 years, 9% reported 9–12 years, and 18% reported 13 or more years.

The variable “age” was re-conceptualized to indicate generational affiliation so that categories for age were translated into the categories of “baby boomer” (ages 49–67), “generation X” (ages 35–48), and “millennial” (ages 12–34). In this sample, there was a 98% response rate (n = 86) for this item. Of the 98%, 33% identified as “baby boomer,” 31% identified as “Generation X,”
### Table 1. Self-reported participant demographics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Repeat Offender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
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<td>49</td>
</tr>
<tr>
<td>No</td>
<td>44</td>
<td>51</td>
</tr>
<tr>
<td><strong>Generation</strong></td>
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<td></td>
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<tr>
<td>Baby Boomer</td>
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<td>33</td>
</tr>
<tr>
<td>Generation X</td>
<td>27</td>
<td>31</td>
</tr>
<tr>
<td>Millennial</td>
<td>31</td>
<td>36</td>
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<tr>
<td><strong>Race</strong></td>
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<tr>
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<td>Other</td>
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<td>1</td>
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<tr>
<td><strong>Disability</strong></td>
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<tr>
<td>Vision Loss</td>
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<td>7</td>
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<tr>
<td>Attention Deficit Disorder</td>
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<tr>
<td><strong>Level of Education</strong></td>
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<td>Completed College</td>
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<td>2</td>
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<tr>
<td>Some College</td>
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<td>23</td>
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<tr>
<td>GED</td>
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<td>Completed High School</td>
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<td>Some High School</td>
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<td>33</td>
</tr>
<tr>
<td>Some Grade School</td>
<td>5</td>
<td>2</td>
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<tr>
<td>Completed Grade School</td>
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and 36% identified as “Millennial.” These groups were based on Parks (2009) categorizations of generations.

For the variable “race,” self-reported data were collected based on the categories of African American, Caucasian, and Other. In this sample, 58% identified as African American, 41% Caucasian, and 1% as other. For the variable “disability status,” 73% reported as having a disability, and 27% of participants reported not having a disability. Of the 73% who reported having a disability, 40% identified substance abuse, 16% physical disability, 11% emotional disorder, 8% learning disability, 7% vision loss/blindness, 7% attention deficit disorder, 5% low intelligence/low IQ, 3% hearing loss/deafness, and 3% other. The variable “level of education” was defined as education completed. In this sample, 33% reported completing “some high school,” 23% “some college,” 23% “GED”; 11% “completed high school,” 6% “completed some grade school,” 2% “completed grade school,” and 2% completed college.

Daydream Jobs
Personal daydreams about work are good predictors of vocational choice and should be included in career planning (Brown & Brooks, 1991). As part of the SDS assessment, participants were asked to identify their daydream jobs and the number of daydream jobs they presently desire. Respondents were requested to indicate up to eight daydream jobs. Results from analyzing the number of daydream jobs indicate that 23% of participants reported five or more daydream jobs, and 77% of participants reported four or fewer daydream jobs.

First Letter of Holland Code
The first letter of the Holland code indicates the most dominant vocational interest area. In this sample, 56% reported R (realistic) as the first letter code, 5% reported I (investigative), 7% reported A (artistic), 12% reported S (social), 18% reported E (enterprising), and 2% reported C (conventional) as the first letter code of vocational choice.

CTI Standard Scores
The raw score for the overall CTI and its subscales are converted to T-scores with a normative mean of 50 and a standard deviation of 10. The mean T-scores for the sample on the overall CTI and its subscales using the adult norms are presented in Table 2. The mean scores for the CTI total and subscales ranged from 54.20 to 57.19, with standard deviation from 9.90 to 13.14.
Correlational Results
A correlational analysis was conducted based on the first letter code only of the SDS and the relationship to the overall score for the CTI. Additionally, the first letter code of the SDS and the three subscales of the CTI were analyzed to determine the significance and strength of the relationships.

First, using Kendall’s tau-b, a correlational analysis of the first letter code of the SDS and the CTI overall score revealed no relationship between these variables ($r = .11$, $p > .05$). Second, using Kendall’s tau-b, a correlational analysis of the first letter code of the SDS and the CTI subscale Decision-Making Confusion standard score again revealed no relationship between these variables ($r = .08$). Third, using Kendall’s tau-b, a correlational analysis of the first letter code of the SDS and the CTI subscale Commitment Anxiety standard scores revealed no relationship between these variables ($r = .18$). Using Kendall’s tau-b, a final correlational analysis of the first letter code of the SDS and the CTI subscale External Conflict standard score again revealed no relationship between these variables ($r = .10$).

The correlational analyses did not indicate a statistically significant relationship among variables. It is interesting to note that there was no correlational relationship between the first letter code of the SDS and the CTI overall and subscales Decision-Making Confusion, Commitment Anxiety, and External Conflict, because it points to a lack of a linkage between a person’s reported vocational interests and their positive or negative thoughts about work in this sample.

One-Way ANOVA Results
A one-way analysis of variance (ANOVA) was used to examine differences in career thoughts based on generational group affiliation. In this sample the independent variable generational affiliation included three levels: baby
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boomers, generation X, and millennials. The dependent variables were the SDS first letter code, CTI total standard score, and the CTI subscales Decision-Making Confusion and Commitment Anxiety. The analyses did not generate statistically significant results based on group affiliation. Near statistical significance was identified among generational affiliation and the CTI subscale Commitment Anxiety, $F(2, 83) = .29, p = .06$. This indicates that there may be a difference in level of Commitment Anxiety experienced by participants based on generational group affiliation. Generational affiliation is related to the level of commitment anxiety that individuals may experience with regard to the inability to make a commitment to a specific career choice or path, accompanied by generalized anxiety about the decision-making process. This could be due to many factors, but likely older individuals who are incarcerated experience greater amounts of anxiety about committing to a job and career field thus causing higher levels of dysfunctional career thinking. This is particularly interesting to note because most prison transition programs do not specifically address career development from a perspective considering age but instead take a generalized approach for all individuals.

ANOVA results indicated that there is a statistically significant difference between race and the first letter code yielded from the SDS, but not the overall score and subscales of the CTI. The ANOVA indicates a significant difference between race and the first letter code of the SDS, $F(2,85) = 24.69, p = .00$, indicating a significant difference in choice of first SDS code based on race. The independent variable race included three levels: African American, Caucasian, and Other. ANOVA results indicated a statistically significant difference between disability and the external conflict subscale on the CTI ($F(9, 74) = 2.72, p = .01$). ANOVA results indicated that there is a statistically significant difference between education level and the CTI subscale External Conflict ($F(6, 80) = 2.81, p = .02$).

Discussion
The purpose of the present study was to investigate whether a relationship exists between two important factors related to the career needs of incarcerated men as they exit prison and transition back into communities. This study examined the career thoughts participants have about the world of work and their reported career interests. Gaining an understanding of career interests and knowing which occupational areas match which vocational interests assist in self-understanding and career exploration, which is often deficient in prisons (Derzis et al., 2013).
Self-Directed Search
For the daydream portion of the SDS indicated in this sample, participants provided an average of three daydream jobs. Recent research (Derzis et al., 2013) indicated that in another re-entry session, the SDS was administered with a mean number of daydream jobs for the sample (n = 132) of five. The daydreams section provides an opportunity for the respondent to list up to eight dream jobs, in chronological order starting with their most recent daydream job. Of interest would be to examine the mean number of daydream jobs with other populations. Since there are eight possible daydreams, it would be worthwhile to investigate why more people do not complete all eight. The ability to daydream about work can be a predictor of vocational choice and there could be a correlation among some population groups and their employment status.

The first letter of the Holland code was analyzed to see how the sample distributed in terms of Holland career typology. This is of interest to note because 56% of the current sample reported “realistic” as the most often noted area of vocational interest and worker personality. Realistic jobs are jobs that typically involve the use of machines or tools or manual labor, and these people typically prefer working with things rather than people. Derzis et al. (2013) found that in a sample at another re-entry session in the State of Alabama, results were similar. The study found that 53% of the sample (n = 132), also reported realistic jobs or R as the first letter code.

Career Thoughts Inventory
The results also indicated that the CTI Total score and subscale scores are not significantly different from the norm group. These results are of clinical significance due to the fact that this sample of adult inmates does not differ very much from the norm group for this assessment instrument; this could be for several reasons. The participants could possibly elicit socially desirable responses for the researchers since the participants know that the researchers are from a university, are exploring the population, and have established relationships within the department of corrections.

Analytical Results
Significant differences were noted through the ANOVA in three specific areas including differences between (a) first letter code of the SDS and race, (b) the external conflict subscale of the CTI and educational level, and (c) the external conflict subscale of the CTI and disability (substance abuse).
The SDS results revealed a significant difference in first letter code and race. This statistically significant difference between race and the first letter code of the SDS, which is the predominant vocational interest area informs us for this sample that Caucasians (79%) are more likely to seek a realistic occupation while 39% of African American respondents also indicated R as their predominant interest. This finding of racial differences and first letter code is aligned with (Derzis et al., 2013) and future research is needed to explain the variation between African Americans and Caucasians who are incarcerated.

Related to the external conflict subscale of the CTI, a significant difference was found based on educational level. Respondents who indicated some grade school or completing only grade school had the highest External Conflict scores. This is of importance to note because external conflict refers to difficulty balancing the input from significant others and the individual’s own thoughts on important decision-making processes. It is difficult for people to identify what they want to do and what they have the ability to do for work. When there are external conflicts that further complicate this process, people often lack career and life maturity and are at crossroads with what to do. For individuals who are exiting the prison environment, often the relationships they have with friends and family contribute to the crimes committed further complicating their world of work. The education component is interesting to examine because individuals who have higher education may not have realistic goals for employment with their education level attained and past criminal record.

Finally, with regard to the significant differences in the external conflict subscale of the CTI and disability status, this finding is not surprising. People with disabilities are vulnerable in the work environment because often barriers that prevent success can hinder the worker in current work and future jobs. Individuals who are incarcerated and have a disability may also be realistic when answering the interest inventory by assuming that they have limited job interests, because they feel their disability prevents them from being able to do certain kinds of work (Derzis et al., 2013). Twenty-nine percent of respondents indicated substance abuse as their primary disability.

**Limitations**

There are limitations to this study that should be noted. The sample for this study was a sample of convenience and represents only 87 of 31,025 inmates in the Alabama prison system. This sample size limits the generalizability of the research. The researcher has established relationships in the Alabama prison system and has conducted other re-entry trainings at the prison where this study
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was conducted. This could potentially influence the responses inmates report on the assessments administered.

Implications and Recommendations

This study revealed that the first letter code of the SDS is not significantly related with the CTI overall score and subscale scores. Correlational analysis also explored relationships with age, race, education level, disability, length of incarceration, and repeat offender status. Additionally, significant differences were found between race and first letter code of the SDS as well as disability and the external conflict subscale of CTI. Practical significance was found with describing the population demographically and with the results from the SDS, CTI, and demographic sheet. If the larger population of incarcerated individuals is similar to the participants in this study, prisons should align their programming to meet the needs of inmates through better vocational programs and programs that take the inmate’s individual career interests into consideration. For future research, researchers may want to code the daydream jobs with a Holland code to examine reported vocational interests and actual Holland code congruence. The researchers would also utilize Curtis’s (2013) Vocational and Educational History Questionnaire (VEHQ) to examine past work history. Curtis, Derzis, Shippen, Musgrove, and Brigman (2013) found that often inmates report that the kind of work they want to do for future work was a job they previously held. The results from the CTI were very similar to the norm group. For future research, utilizing a social desirability scale would assist in deciphering if the participant is providing true responses or those that are desired socially. In addition, regression analysis should be utilized to examine potential barriers of employment including felonies, education, past work experience, vocational interests, and generational affiliation.

The world of work for diverse populations continues to be an area explored by researchers and those interested in serving the incarcerated as practitioners and policy makers. A need still exists to better understand barriers to employment. By addressing the needs of this population the workforce can continue to evolve and diversify into the modern-day employee.

References


Biographical Sketch

NICK DERZIS is an Assistant Clinical Professor in the Department of Special Education, Rehabilitation, and Counseling. Dr. Derzis earned his Bachelor’s degree in Human Services from Troy University, in Troy, Alabama, a Master of Education in Rehabilitation Counseling and a Doctor of Philosophy in Rehabilitation and Special Education from Auburn University, Auburn, Alabama. Prior to his work at Auburn University, he worked with non-profit agencies, educational consulting, and state vocational rehabilitation services. His interest and service is in the area of vocational interests, job development, and incarcerated individuals with disabilities, the Alabama Governor’s Youth Leadership Forum, and community integration. He serves as the coordinator for the undergraduate program in Rehabilitation and Disability Studies and is the primary academic advisor for the program.

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Performance and Beliefs: 
Two Assessments of Literacy 
Learners in Prison Part I

Bill Muth 
Elizabeth Sturtevant 
Gina Pannozzo

Abstract: Part I.
This study examines an assessment strategy used with incarcerated literacy learners. The strategy employed a traditional set of reading tests as well as open-ended interviews. Two stances—increasingly reconciled in the reading community—framed this assessment: (a) a post-positivist stance that promotes a normed, component-level assessment of reading; and (b) a social-constructivist one that attends to incarcerated learners’ beliefs that anchor instruction. This framework respected the value commitments of each worldview.

The study reports two sets of findings—about learners’ reading patterns and beliefs—and then discusses two methods, pragmatic and dialectical, used to juxtapose and relate the findings across paradigms. Though time consuming, the study found this approach provided a way to (a) transcend normative-personal dualisms, (b) provide a check on over reliance of pet theories, and (c) cultivate a critical stance toward prison education.

Due to length, the study is reported in two parts. Part I, presented here, includes the quantitative findings.

Introduction
The United States leads the world in incarceration with a rate 5–8 times greater than that of Canada and western European countries. In 2007, one of every 131 Americans was in prison or jail. For white, Hispanic, and black men, the chances of doing time at some point in their lives is 6%, 17%, and 32%, respectively
Currently over 7.3 million people are incarcerated or on probation or parole in America—a 290% rise since 1980 (Bureau of Justice Statistics–BJS, 2008). An estimated 41% of U.S. prisoners lack a high school diploma or its equivalent, the GED (Harlow, 2003), and only about half of them participate in any educational programs while incarcerated (BJS, 2003). Despite evidence of an inverse relationship between literacy proficiency and recidivism (Aos, Phipps, Barnoski & Lieb, 2006; Steurer, Smith & Tracey, 2001), a smaller percentage of prisoners has access to academic classes as prison populations expand (LoBuglio 2001). More than 650,000 prisoners return to U.S. communities each year, and over two-thirds of them return to prison within three years (Gibbons & Katzenbach, 2006). Bipartisan voices within and outside the criminal justice field give current U.S. penal practices a failing grade (Gibbons & Katzenbach, 2006).

In many U.S. prisons, consistent with community-based practices, literacy placements and outcomes are based on uni-dimensional comprehension test scores. For example, in a study of prison programs in eight states, Klein and Tolber (2004) noted that “all states use the results of standardized tests to assign inmates to [literacy] programs. States have, however, set different scoring thresholds. . .some states are using TABE reading and writing. . .while others are using TABE reading and math” (p. 13). In all cases, comprehension was the sole component of reading used to place learners in programs, just as it is the only component used to report reading outcomes in the National Reporting System (NRS) (U.S. Department of Education, 2007). While reading comprehension scores are important, their exclusive use in adult reading programs has been criticized by Kruidenier (2002), Strucker and Davidson (2003), and others. Their post-positivist critique argued for a wider range of normed tests that can assess additional components of reading, such as fluency, vocabulary, and word recognition.

Lytle’s (2001) critique of standardized literacy assessments took a different approach. Referring to the media’s portrayal of “low-literate” adults as dysfunctional or helpless victims, she noted,

In accordance with these public images. . .many adults initially present themselves at literacy programs as unable to read and write. At the same

1We use this term to confer a constrained positivism, as described by Greene (2007): “Post-positivism retained the ideals of positivism—the assumption that the social world exists independent of our knowledge of it (realism), a commitment to objective methods. . .in the service of. . .universal truth—but post-positivists retained these ideas with more humility, less faith in the power of method, and better acceptance in the inevitable fallibility of human beings as observers than their forbearers had” (p. 33).
time. They often arrive with prior experiences of authentic reading and writing and extraordinary endeavors to teach themselves strategies for using written language in their daily lives (p. 109).

Lytle suggested that “patterns of literacy development in adulthood are distinctive, if not wholly unique” (p. 110). She viewed literacy events as inseparable from their social and cultural purposes and elevated the importance of learners’ socially constructed knowledge and literacy practices. Lytle framed assessment in terms of learners’ shifts in beliefs about their own literacy practices and purposes, describing these shifts as “evolving conceptual frameworks” (p. 387).

The demand for prison-based adult literacy programs is vast and, at times, ideologically contentious—as we can infer from the differences in post-positivist and social-cultural approaches to assessment noted above. Given the enormity of the need, it is important to frame prison programs in the most humane and effective ways possible. This study is an attempt to contribute to this end, through its deliberate use of, and reflection on, two distinct literacy assessment strategies.

**Purpose and Context**

This paper is part of a two-part report that examines a cross-paradigmatic approach to the assessment of prisoners. The chief purpose of the study is to weigh the merits of an assessment protocol that (a) views literacy as both normative technology and socially situated practices, (b) identifies typologies and patterns of reading performance, (c) respects and gives voice to the views of prisoners, and (d) makes sense of multiple learner perspectives. Post-positive and social-constructivist critiques of prison literacy are grounded in different communities of practice. Literacy practitioners and researchers have few guides to help them make use of what each can provide, or make sense of their irreconcilabilities and complementarities (Muth, 2011).

Advocates for humanizing methods in prison inevitably run into resistance (Gehring & Hollingsworth, 2002). Foucault (1978) noted when prisons replaced other punitive methods such as public spectacle and torture, the focus of law shifted from the criminal act to the criminal person.

Judgment is passed on offenses as defined by law, but judgment is also passed on passions, instincts, anomalies, infirmities, maladjustments, effects of environment or heredity, aggressivity, perversions, drives, and desires. Providing the mechanisms of legal punishment with a justifiable
hold not only on offences, but on individuals; not only on what they do, but also on what they are, will be, may be” (pp. 17–18).

Punishment of criminal acts is not the only purpose for criminal justice systems. They also judge the prisoner’s character and maintain control, typically by enforcing powerlessness and rewarding docility. This control extends beyond the term of imprisonment through surveillance technology, disqualification for government entitlements (college loans, housing subsidies, etc.), and the loss of the right to vote (Alexander, 2010). For these reasons, pedagogies that push for prisoners’ civil rights or “stir up” prisoners’ voices can be problematic for correctional workers (Muth & Kiser, 2008; Behan, 2007, Wright, 2006). In a professional development project one of the authors recently conducted in a midwestern state, for example, 13 of 23 teachers from juvenile prisons disagreed with the following statement, “It is important to get to know students’ biographies. Caring teachers find ways to get students to open up so their personal life issues can be addressed” (Muth & Kiser, 2008, unpublished data). In some U.S. training programs, depersonalizing the teacher-prisoner relationships is considered necessary for basic security (Allen & Bosta, 1981).

The work of correctional teachers is not immune from the great disciplinary debates that energize the social science, penology, and literacy communities in which prison literacy is situated (Table 1). At the broadest level, social scientists wrestle with epistemological issues—e.g., positivist versus constructivist ways of knowing. They debate whether positivist methods such as controlled experiments, well suited to natural sciences’ objects, are appropriate for studying intentional subjects who are positioned by the researcher into relationships of

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<td><strong>Social Science</strong></td>
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power (Flyvbjerg, 2001). This argument reverberates in the penological debate (Duguid, 2000) between criminogenic approaches—which use “objective” methods to map prisoners’ skills and needs against targeted norms (see, for example, Gendreau & Andrews, 1990)—and a Human Dignity Approach (Warner, 1998) that champions democratic prison reform models.

Advocates of democratic approaches caution that top-down criminogenic methods can perpetuate dehumanizing “deficit” discourses that undermine access to powerful knowledge (Costelloe & Warner, 2006). In the literacy field, a related debate waxes and wanes. The New Literacy Studies Group at Lancaster University (Barton, Hamilton & Ivani, 2000) has challenged standardized cognitive (skill-based) approaches (e.g., Chall, 1991) by arguing that literacy events (and learner’s ability) can only be understood within broader social and cultural practices.

The paradigm debates in social science, penology, and literacy share similar arguments about what kind of knowledge is privileged (normative versus subjective, top-down versus student-constructed), whether learning is best taught out of social-cultural contexts or within, and who shapes and is served by the curriculum. Post-positivist epistemologies, criminogenic penology, and cognitive approaches to literacy are all privilege normed and analytic methods for teaching reading in prison. Conversely, constructivist epistemologies, humanistic penology, and social-cultural approaches to literacy favor situated and holistic methods for understanding the agency and local literacies of incarcerated learners (Table 1).

There are profound differences in these two world views—one that quantifies and reduces complexity and the other that commits to irreducible complexity. Navigating across them requires more than a simple shift in technique. Kidder and Fine (1987) argued that there are significant cultural differences between paradigms and that researchers and practitioners therefore need to become “bi-cultural” (p. 57) members of both worlds. We address the navigation issue in the Discussion section of this paper. But in the sections that follow we review each assessment stance in turn.

**Assessing Reading in a Diverse World: The Post-Positivist Critique**

Incarcerated literacy learners have complex learning needs. As a group, prisoners experience high rates of reading disabilities, poverty effects, substance abuse, fetal alcohol syndrome, mental illness, attention deficit disorders, and memory-related learning problems (Travis, Solomon & Waul, 2001). Adding to these learning challenges, U.S. prisoners, like adult literacy learners in the
community, are increasingly ethnically and linguistically diverse. This diversity is described in terms of differences across, and relationships among, cognitive processes such as phonological processing and short-term-memory (Read, 1988), decoding and prior knowledge (Adams, 1990), vocabulary and schema (Curtis, 1987), and memory and meta-cognition (Sabatini, 2002). Strucker (1997) argued that a single measure—such as a comprehension score—can mask important differences at the component level of reading. Alamprese (2009) demonstrated this by showing how a phonics program did not improve the vocabulary test performance of learners with “low decoding/low comprehension” profiles, but did for low-decoders with medium-high comprehension.

While component-level methods of assessment and instruction are currently promoted by the National Institute for Literacy (McShane, 2005), numerous disincentives for practitioners persist. Foremost may be cost, since at least some component-level tests must be administered individually. Secondly, there are few models that integrate component-level assessment into a coherent curricular framework that explains which components of reading should be emphasized when, and in proportion to which other components (Curtis & Longo, 1999). Thirdly, the problem of integration is compounded by linear, univariate reporting systems such as the NRS. These systems apply a downward pressure on programs to focus on instructional outcomes (i.e., comprehension) rather than components, especially when component-level gains are not considered report-worthy. For example, Alamprese (2009) criticized the National Reporting System (NRS) for not being sensitive to component-level gains: “. . . the use of general literacy measures may not be adequate to document gains. . . Rather, instruments that measure decoding as a discrete skill may need to be included in. . . NRS reporting (p. 127).”

Strucker (1997) argued that understanding the component-level needs of learners—and the reading profiles this level of assessment affords—is essential when working in diverse adult literacy classrooms. He illustrated his argument by contrasting the profiles of two students at the Harvard Adult Literacy Lab. One achieved a very low word recognition score and an intermediate level vocabulary score, while the other’s score profile was the mirror opposite: intermediate
word recognition score and a lower vocabulary score. Yet these instructionally
important differences were masked by similar scores in reading comprehension.

Despite the costs and barriers of component-level assessments, the post-
positivist argument is that the costs of not using them—in terms of wasted time
and misapplied instruction—can be even greater. We agree with this argument
but caution that this stance—which categorizes incarcerated learners according
to norms—needs to be tempered. In prison classrooms—where issues of trust,
respect, authority, and power are complex and pervasive—special attention must
also be paid to student-teacher relationships and the learners’ intentionality and
involvement in directing their own learning.

**Knowing Prisoners as Persons: The Social-Constructivist Critique**

Our discussion turns from “testing” to “understanding” as we shift from a
post-positivist framework to a social-constructivist one that is mindful of the
perspectives of learners and the ideological purposes for instruction. In prison, as
in all systems, these purposes are complex and educators and students serve or
resist ulterior purposes, regardless of the presumed neutrality of the curriculum.

**Prisoners and Teachers in Borderlands**

Knowles (1973) claimed that self-agency and direction were basic tenants of
adult learning. But educators that authenticate the voices of prisoners, and
treat them as agentive subjects rather than passive objects, run into problems.
Nevertheless, a precedent for prison-based expressionist methods is well
established (Boudin, 1993; Duguid, 2000; Duguid & Hoekema, 1986; Lamb
& Women of York Correctional Institution, 2003; Saba, 1990; Wilson, 2003;
Wright, 2001). O’Connor (2000) claimed that prisoners’ telling of their “life stories
could open a space for reflection. . .which is conducive to change in one’s life”
(p. 107). Boudin (1993) described the efforts of women in a New York State
prison to transform the literacy curriculum and themselves by writing about their
fears of contracting AIDS. Wilson (2003) described youthful offenders’ assertive
self-expressions as thirdspaces (Lefebvre, 1991; Soja, 1996) in which literacy
and language practices differed qualitatively from those at home and in official
prison communications.

Incarcerated literacy learners often discount their own voices and out-of-
school discourses. Often they do not connect academic literacy learning with
real-life needs or day-to-day literacy practices (Muth, 2006). Many of these
learners are too threatened or embarrassed to express a private thought or
otherwise participate in class discussions. Thus, while social-constructivist
methods gain favor in the broader field of adult learning (Rust, O’Donovan & Price, 2005), dispositional barriers may impede their acceptance in prison.

But prisoners are not the only ones who sometimes resist learner-centered and expressionist approaches to literacy learning. Correctional practitioners are at best ambivalent about regarding prisoners as whole persons with agency and voice (Ben-Tsur, 2007; Duguid, 2000; Wright, 2006). And, of course, some ambivalence is warranted—such as when teachers wish to respect the privacy of their students, or when learners’ discussions degrade into hate speech. But beyond this, prison culture can have a chilling effect on open speech. Duguid described this as a “massive intolerance of ambiguity” (p. 40). Some correctional teachers embrace this attempt to reduce complexity but Wright (2006) argues that educators often find themselves caught in a borderland:

Prison teaching cultures are hybrid. . .cultures—a blend of “home” and “host”. . .teaching. . .identities. . .Caught on these cultural borders, many teachers. . .experience the tension that comes from knowing. . .students as human beings. . .and [treating] them as objects that must be kept at a social distance (pp. 8–9).

Prison schools, curricula, teachers, and students are all embedded in prison culture. Yet, as Wright (2006) points out, “Organizational cultures are tacit, taken for granted assumptions about ‘the way things are done around here’” (p. 8). It takes a concerted effort to identify and thereby resist ideologies of distancing, docility, and control that underpin prison policies. Literacy assessment may afford a unique opportunity to become conscious (Freire, 2001; Lytle, 2001) of this. On the surface, educators and prisoners understand the cost of distancing in terms of rapport, trust, and motivation. But what may be less obvious is the way prisoners’ beliefs—quieted and unexamined—compromise the very ground upon which instruction takes place.

Beliefs Anchor Instruction
Lytle (2001) used qualitative interviews to understand her learners’ beliefs about literacy practices, processes, and purposes for learning. Her “assessments” revealed changes in the way students viewed and valued themselves and their literacy practices, and the way they perceived the culture of the classroom.

Academic improvement may influence students’ beliefs about themselves as learners, but Lytle saw that the reverse was also true: “beliefs [about themselves as learners] may be a primary source or anchor for other dimensions of growth”
She noted, ‘Adult learners bring to literacy programs beliefs about language and learning that sometimes inform and sometimes constrain their own development’ (p. 387). For example, Lytle cited a story by Alicia Belzer about a student who viewed feedback as criticism. Belzer (in Lytle, p. 389) reflected, ‘In [a] letter, [Belzer’s student] discussed her feeling that for me nothing anyone ever wrote was good enough. By my always asking the group for feedback on everyone’s writing, she had lost self-confidence in herself as a writer. . .’. In a similar way, Trawick (2008) described conflicts in her learners’ beliefs about in-school and out-of-school reading; they regarded in-school literacy as skill work such as, “pronouncing words, breaking words down and rereading for perfection” (p. 4), while out-of-school reading was meaningful and practical.

While reading component tests provide a normative means for assessing cognitive processes and skills, qualitative interviews provide a way to understand learners’ beliefs that anchor learning. These two straightforward approaches reflect quite different epistemological claims, however, and underscore a need for a bicultural appreciation of their differences.

**Method**

The study necessitated research methods that, on the one hand imposed order on diversity, and on the other, explored situated subjectivities. Four research questions were posed. The first related to reading proficiency: (a) What types of component-level reading profiles do prisoners’ test scores present and how relevant are they to instruction? The next two targeted prisoners’ views on learning: (b) What are the learners’ beliefs about literacy and learning in prison? (c) What are the implications of these findings for instruction? Finally, in anticipation of disparate sets of data, we asked, (d) In what ways do these two ways of knowing about prisoners inform each other?

Two approaches to assessment were used. First, statistical cluster analyses (Lorr, 1983) were used to see if reading profiles could be discerned and if these profiles had instructional relevance. Second, as reported on in Part II of this report, qualitative interviews were used to explore prisoners’ beliefs about learning through the ways they described their own literacy practices, processes, and purposes for being in school.

**Cluster Analysis**

The cluster analysis involved 120 prisoners enrolled in English-based literacy programs at one of seven federal prisons in the Eastern United States. This non-experimental design was selected to examine the ways the 120 participants
could be classified into sub-groups based on their performances on multiple reading tests.

**Sample for cluster analysis.** A multi-stage strategy was used to identify the 120-prisoner sample. First, a stratified random sample was used to select literacy classes at each academic and security level across the seven institutions. Volunteers were then recruited from these classes. The overall volunteer rate was 44% (178 volunteers out of 407 students from 32 randomly selected classes). A “dimensional” method (Robson, 1993, p. 141) was used for the final selection of 120 participants so that the sample contained an even representation across reading comprehension levels and security levels; also considered were gender and first language. Table 2 presents selected demographics of the final prisoner sample. Beginning level students were overrepresented in this study (19.6% of the total population compared to 38.3% of the study sample), while intermediate and advanced students were underrepresented (41.4% vs. 30%, and 39.0% vs. 31.7%, respectively). This was done to recruit approximately equal numbers of participants from three reading levels. African Americans were overrepresented while Latino/as—many of whom were enrolled in Spanish literacy programs at the time of this study—were underrepresented. However, 29% of the participants \( (n = 35) \) were English language learners, a sufficient number to observe some patterns among this group. The sample represented the proportion of male to female prisoners and the number of prisoners at each security level, at the seven prisons.

**Measures.** A battery of reading tests (see Appendix A) was administered to 120 prisoners, from which eleven variables were used for the cluster analysis. The variables are listed here along with a brief description of specific tasks used to measure them: **phonemic awareness** (repeat orally presented words while deleting one part of the word; e.g., say “cowboy” without the “boy”), **word attack** (read phonetically regular pseudowords like “schmick,” “floss”), **word recognition in context** (read words in connected passages), **word recognition out of context** (read words from list), **oral expressive vocabulary** (verbally state the meaning of a word presented orally), **oral receptive vocabulary** (listen to a verbal cue and then point to one of four pictures that best illustrate the word), **rapid automatized naming** (read as rapidly and accurately as possible an array of 50 letters on a page), **reading rate** (read passages out loud; rate computed as words or syllables per minute), **verbal short-term memory** (repeat lists of numbers), **working memory** (repeat numbers in reverse order), and **reading comprehension** (answer written questions about a text after silently reading it). These eleven variables provided
Table 2. Selected Demographics of 120 Prisoner Sample

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum (female)</td>
<td>15</td>
<td>12.5</td>
</tr>
<tr>
<td>Low</td>
<td>30</td>
<td>25.0</td>
</tr>
<tr>
<td>Medium</td>
<td>40</td>
<td>33.3</td>
</tr>
<tr>
<td>High</td>
<td>35</td>
<td>29.2</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>105</td>
<td>87.5</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>12.5</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>85</td>
<td>70.8</td>
</tr>
<tr>
<td>Caucasian (non-Hispanic)</td>
<td>20</td>
<td>16.7</td>
</tr>
<tr>
<td>Hispanic/Latino/a</td>
<td>9</td>
<td>7.5</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Mixed Race</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Native Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>85</td>
<td>70.8</td>
</tr>
<tr>
<td>Other</td>
<td>35</td>
<td>29.2</td>
</tr>
<tr>
<td>Health Problems in the Past</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious Head Injury</td>
<td>44</td>
<td>37.0</td>
</tr>
<tr>
<td>Substance Abuse in Past</td>
<td>70</td>
<td>58.0</td>
</tr>
<tr>
<td>Repeated One or More Grades in School</td>
<td>62</td>
<td>52.0</td>
</tr>
<tr>
<td>Received Special Help in School</td>
<td>62</td>
<td>52.0</td>
</tr>
<tr>
<td>Time Spent Per Week Reading Outside Classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>26</td>
<td>22.0</td>
</tr>
<tr>
<td>6 or More</td>
<td>59</td>
<td>49.0</td>
</tr>
<tr>
<td>Mother’s Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Than HS Diploma</td>
<td>35</td>
<td>29.0</td>
</tr>
<tr>
<td>HS Diploma or Greater</td>
<td>45</td>
<td>38.0</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>39</td>
<td>33.0</td>
</tr>
<tr>
<td>Father’s Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Than HS Diploma</td>
<td>32</td>
<td>27.0</td>
</tr>
<tr>
<td>HS Diploma or Greater</td>
<td>31</td>
<td>26.0</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>55</td>
<td>47.0</td>
</tr>
</tbody>
</table>

Notes: *Includes special education and Title One classes.
non-redundant measures that were useful in assigning the 120 participants to clusters comprised of others with similar scores.

For the remainder of Part I of the report, we present findings from the quantitative part of the study. In Part II we present the qualitative findings and then discuss two methods, pragmatic and dialectical, used to juxtapose and relate findings across epistemologies. We conclude Part II with an appraisal of the entire process and its implications for a bicultural assessment method.

Findings from the Cluster Analysis
In this section we first present key findings from the cluster analysis. We then consider the usefulness of the findings in terms of their relevance to instruction.

Reading Components
As noted above, eleven measures were used in the statistical cluster analysis. A factor analysis sorted the eleven variables into four factor areas (see Appendix B). These factors represented four reading component categories that were labeled print, meaning, naming speed/rate, and memory. The variables were sorted as follows: (a) Phonemic awareness, word attack and word recognition (in context and out of context) comprised the print component. (b) Oral expressive and receptive vocabulary comprised the meaning component. (c) Rapid automatized naming (for letters) and reading rate made up the naming speed/rate component. And (d) verbal short-term and working memory comprised the memory component. During the statistical clustering procedures, data from an educational history questionnaire were used to examine the face validity of the clusters. This helped corroborate or question the implied learning characteristics of each cluster as reflected in its aggregate profile of reading scores.

Measures of the eleven variables were used to assign 120 participants to one of eight clusters. Each of the eight clusters demonstrated one of three score patterns based on shape (relative strengths and needs) and elevation (overall learning level) across the four reading component categories (print, meaning, naming speed/rate, and memory). Information regarding the characteristics of the participants and four factor scores for each cluster are presented in Table 3. Three prototypic patterns, or profiles, were primarily derived from the

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4Note: As might be expected, comprehension split evenly between print and meaning components.
5The educational history questionnaire included 64 items that addressed six areas: demographic information, employment/vocational history, family history, school history, current reading and writing practices, and medical and health history. For more detailed information see Author (2006).
6Clusters are discussed below.
<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>Reading Level(^2)</th>
<th>Number of Cases (n = 120)</th>
<th>Number of ELLs</th>
<th>Highest Grade Completed</th>
<th>Print Factor(^3)</th>
<th>Meaning Factor(^4)</th>
<th>Naming Speed/Rate Factor(^5)</th>
<th>Memory Factor(^6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Basic</td>
<td></td>
<td>14</td>
<td>5</td>
<td>5.80</td>
<td>-0.80</td>
<td>-1.10</td>
<td>-0.78</td>
<td>-0.77</td>
</tr>
<tr>
<td>4. Low-Inter.</td>
<td></td>
<td>15</td>
<td>9</td>
<td>8.10</td>
<td>-0.28</td>
<td>-0.45</td>
<td>-0.10</td>
<td>-0.05</td>
</tr>
<tr>
<td>6. Inter.</td>
<td></td>
<td>30</td>
<td>7</td>
<td>9.20</td>
<td>0.08</td>
<td>0.19</td>
<td>0.36</td>
<td>-0.19</td>
</tr>
<tr>
<td>8. Advanced</td>
<td></td>
<td>11</td>
<td>0</td>
<td>9.00</td>
<td>1.12</td>
<td>1.16</td>
<td>0.70</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Sample Mean</strong></td>
<td></td>
<td><strong>n/a</strong></td>
<td></td>
<td><strong>8.50</strong></td>
<td><strong>0.0</strong></td>
<td><strong>0.0</strong></td>
<td><strong>0.0</strong></td>
<td><strong>0.0</strong></td>
</tr>
</tbody>
</table>

Notes:  
1. Weighted values derived from factor loadings (see Appendix B).  
2. Levels based on DAR Word Recognition Scores.  
5. Naming speed/rate factor based on syllables-per-minute and RAN-letters scores.  
6. Memory factor based on WAIS Digits Forward, Digits Backwards, and Digit Span scores.
cluster’s relative performance in the print and meaning components. For ease of recognition, these print-meaning patterns were used to label the clusters.

**Print = Meaning (P = M) pattern.** Four of the eight clusters—Clusters 1, 4, 6, and 8—reflected relatively flat patterns—where aggregate scores on tests comprising the print component category and aggregate scores on tests comprising the meaning component category were roughly equivalent. P = M clusters included learners who typically performed as well on print tests (phonemic awareness, word attack, and word recognition) as they did on meaning tests (oral expressive and receptive vocabulary) (see Figure 1). Cluster 8 comprised a group of relatively strong learners with balanced skills and no basic-level instructional needs in either print or meaning. Conversely, Cluster 1 learners tended to be older and less-schooled (formally), and, as a group, achieved the lowest scores across all four component categories.

A closer look at Cluster 1 will help illustrate the Print = Meaning (P = M) pattern shared by individuals assigned to this cluster. Fourteen participants—two females and twelve males—were assigned to Cluster 1. The average learner was 41 years old (SD = 10.2) and had completed fewer than six years of school (M = 5.9, SD = 3.9). Six learners reported repeating one or more grades in school; three immigrants reported receiving no formal schooling. Five ELLs were assigned to Cluster 1. Cluster 1 learners typically achieved very low scores across tests in all four component categories—print, meaning, naming speed/rate, and memory. Figure 1 and Table 3 present Cluster 1’s z-scores for the four areas. In each area, Cluster 1 z-scores reflect a mean level of performance that is 0.80 SD or more below the mean for the sample, revealing the cluster’s relatively “flat” P = M profile.

Table 4 presents average grade equivalent scores on selected measures of reading for each cluster. The “flat” pattern, characteristic of learners assigned to clusters with P = M profiles, is reflected in the fairly even grade equivalent scores across tests of print skills (word recognition, oral reading, and word attack) and meaning skills (word meaning).

**Print < Meaning (P < M) pattern.** Two clusters—Clusters 2 and 5—can be distinguished from P = M clusters by their profiles of stronger meaning scores relative to print. Both of these clusters also reflected relatively weak naming

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7Graded equivalent scores are problematic. Skill acquisition does not occur in equal intervals across all grade levels; e.g., a one-year gain in phonic at the early levels is more significant than at higher levels. Further, this terminology can be demeaning to adult learners. We include them here for research purposes, as they provide a familiar unit for comparing across components.
Figure 1. Reading Component Z-Scores for Clusters by Pattern Type
Table 4. Mean Grade Equivalent Scores for Selected Reading Tests

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Pattern</th>
<th>Word Recognition</th>
<th>Oral Reading</th>
<th>Word Attack</th>
<th>Word Meaning</th>
<th>Silent Reading Comp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$P = M_{\text{Basic}}$</td>
<td>1.39</td>
<td>1.32</td>
<td>1.5</td>
<td>2.21</td>
<td>2.84</td>
</tr>
<tr>
<td></td>
<td>($n = 14$)</td>
<td>(.68)</td>
<td>(1.03)</td>
<td>(.35)</td>
<td>(1.12)</td>
<td>(.75)</td>
</tr>
<tr>
<td>2</td>
<td>$P &lt; M_{\text{Basic}}$</td>
<td>1.60</td>
<td>1.65</td>
<td>1.61</td>
<td>5.80</td>
<td>3.71</td>
</tr>
<tr>
<td></td>
<td>($n = 20$)</td>
<td>(.31)</td>
<td>(.76)</td>
<td>(.33)</td>
<td>(1.54)</td>
<td>(1.40)</td>
</tr>
<tr>
<td>3</td>
<td>$P &gt; M_{\text{Low-Inter.}}$</td>
<td>3.67</td>
<td>4.25</td>
<td>5.50</td>
<td>2.17</td>
<td>6.32</td>
</tr>
<tr>
<td></td>
<td>($n = 6$)</td>
<td>(1.03)</td>
<td>(1.41)</td>
<td>(1.57)</td>
<td>(1.60)</td>
<td>(2.23)</td>
</tr>
<tr>
<td>4</td>
<td>$P = M_{\text{Low-Inter.}}$</td>
<td>2.80</td>
<td>3.30</td>
<td>2.25</td>
<td>3.73</td>
<td>4.61</td>
</tr>
<tr>
<td></td>
<td>($n = 15$)</td>
<td>(.92)</td>
<td>(1.28)</td>
<td>(.49)</td>
<td>(1.28)</td>
<td>(2.03)</td>
</tr>
<tr>
<td>5</td>
<td>$P &lt; M_{\text{Intermediate}}$</td>
<td>3.25</td>
<td>4.25</td>
<td>2.48</td>
<td>9.00</td>
<td>8.10</td>
</tr>
<tr>
<td></td>
<td>($n = 6$)</td>
<td>(1.17)</td>
<td>(2.10)</td>
<td>(.48)</td>
<td>(2.83)</td>
<td>(2.66)</td>
</tr>
<tr>
<td>6</td>
<td>$P = M_{\text{Intermediate}}$</td>
<td>4.27</td>
<td>6.02</td>
<td>3.22</td>
<td>5.63</td>
<td>8.57</td>
</tr>
<tr>
<td></td>
<td>($n = 30$)</td>
<td>(1.57)</td>
<td>(1.96)</td>
<td>(1.69)</td>
<td>(1.67)</td>
<td>(2.65)</td>
</tr>
<tr>
<td>7</td>
<td>$P &gt; M_{\text{Intermediate}}$</td>
<td>6.89</td>
<td>9.73</td>
<td>6.17</td>
<td>4.67</td>
<td>8.19</td>
</tr>
<tr>
<td></td>
<td>($n = 18$)</td>
<td>(1.68)</td>
<td>(2.51)</td>
<td>(2.03)</td>
<td>(1.37)</td>
<td>(1.76)</td>
</tr>
<tr>
<td>8.0</td>
<td>$P = M_{\text{Advanced}}$</td>
<td>8.73</td>
<td>10.73</td>
<td>7.70</td>
<td>9.27</td>
<td>11.15</td>
</tr>
<tr>
<td></td>
<td>($n = 11$)</td>
<td>(1.49)</td>
<td>(1.62)</td>
<td>(3.36)</td>
<td>(2.57)</td>
<td>(1.30)</td>
</tr>
<tr>
<td>All</td>
<td>Total ($n = 120$)</td>
<td>(2.61)</td>
<td>(3.64)</td>
<td>(2.57)</td>
<td>(2.62)</td>
<td>(3.26)</td>
</tr>
</tbody>
</table>

Notes: *Standard Deviation in Parentheses

speed/rate and memory scores. Of 43 learners with data assigned to $P < M$ clusters, 28 reported receiving special help in school (either Chapter I or special education or both). Twenty-seven of the 43 learners with $P < M$ profiles began experiencing pronounced reading difficulties in elementary school, and despite, on average, nine years of schooling, these difficulties (especially with print skills and fluency) persisted.

A description of Cluster 5 will illustrate the relative strengths and needs of individual learners that were assigned to $P < M$ groups. While the mean Cluster 5 $z$-score for the print factor is just below the sample average (mean = –.15, $SD = .26$), their meaning factor score is a full $SD$ above the sample average (mean = 1.03, $SD = .53$) (Table 3). Despite these relatively strong scores in meaning component test, Cluster 5 members, on average, achieved very low
naming speed/rate scores—comparable to the lowest Cluster 1. The Cluster 5 mean was almost a full SD below the sample average (mean = −.93, SD = .26). Some members also displayed limited short-term-memory ability on the WAIS Digit Span test (mean = −.40, SD = .40). All six members of this relatively young group (average age = 32.5, SD = 6.3) were male. All spoke English as their first language.

**Print > Meaning (P > M) pattern.** Providing a mirror-image of the reading pattern in P < M clusters, Clusters 3 and 7 performed better on tests of print processes relative to meaning, and achieved stronger memory scores relative to the 120-learner sample. (Table 3). The P > M clusters consisted of both ELLs and L1 English speakers. (Twenty of 32 ELLs were assigned to P > M clusters.) It is not surprising that many ELLs, particularly those who began learning English later in life and were literate in other orthographically shallow languages such as Spanish, found oral tests of English vocabulary more difficult than decoding pseudowords. A less expected finding was the presence in P > M clusters of L1 English speakers with low English vocabulary performances, perhaps caused by poor or interrupted schooling, the effects of poverty on schooling and exposure to print in childhood, developmental delays, language disabilities, or cognitive impairments due to brain trauma (Chomsky, 1972; Hart & Risley, 2003; Snow, Burns & Griffin, 1998; Sulzby, 1994).

Cluster 3 has a distinct P > M profile with print scores significantly stronger than meaning (Table 4 and Figure 1). The mean z-score for the print factor was 0.25 or one-fourth of a standard deviation higher than the sample mean. In contrast, the mean z-score on the meaning factor for cluster 3 was 1.40 standard deviations below the mean for the sample. The cluster’s aggregate performances in naming speed/rate and memory areas were relatively strong, with scores 0.31 and 0.73 SD above the sample mean, respectively.

The average age of the six Cluster 3 members was 37.6 years (SD = 8.6). All six were male. Five of six members of this P > M cluster were ELLs; these learners had completed between 8 and 14 years of education in their native countries. On average, these learners completed the 10th grade before dropping out of school (M = 9.7 years, SD = 2.9). In contrast to learners in Clusters 1 and 2, none of these ELLs reported having trouble in school; all claimed to be literate in their native languages.

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8 The term L1 English speakers is used in this paper to designate participants whose first language is English.
Sub-patterns Based on Naming Speed/Rate Factor Scores

The cluster analysis also revealed sub-patterns within clusters defined by faster and slower naming speed/rate scores. For example in Cluster 1, the mean naming speed score for the slower sub-group was 36.2 seconds (SD = 3.4), while the faster sub-group’s mean score was 26.2 seconds (SD = 3.5) (Table 5). All five members of the slower readers group reported they did not read at all outside of the classroom. Conversely, only two of nine learners in the faster readers group did not read outside of the classroom, and four said they spent four or more hours per week reading. Interestingly, only two of nine faster readers reported serious head injuries in the past, compared to three of five slower readers.⁹

Relevance to Instruction

Our findings extend Strucker’s (1997) argument that component-level assessment provides more instructionally useful insight than uni-component assessment. For example, learners from Cluster 3, a P > M group, and learners from the P < M faster rate sub-group of Cluster 6 had, on average, equivalent reading comprehension scores (6.3 GE and 5.7 GE). Yet their mean reading component scores reflected opposite sets of instructional strengths and needs (Table 6).

Cluster 3 members, on average, had considerable decoding ability and fairly strong phonemic awareness skills; Cluster 6 learners tended to be much less proficient with decoding and phonemic awareness tasks, but their knowledge of vocabulary was much stronger than Cluster 3 members. Despite these differences in instructional needs and strengths, the two groups’ reading comprehension scores were only a half-year apart. If used in isolation, these comprehension scores would not indicate any differences in instructional needs among learners from these two groups.

Many correctional educators only have access to silent reading comprehension scores rather than the diagnostic tests needed to assess the instructional needs of their diverse learners. We agree with those (Alampreze, 2009; Mellard, Patterson & Prewett, 2007; Strucker, 1997) who recommend component-level assessment to improve reading instruction. Yet we are simultaneously concerned about implementing it within criminogenic contexts that—intentionally or not—prescribe remediations with little or no input from the

⁹ On average, learners from all eight clusters who reported serious head injuries had lower scores on the naming speed test (M = 25.7, SD = 7.2) than those who reported no serious head injuries (M = 23.0, SD = 5.6), t(74) = 2.14, p = .036 (two-tailed).
Table 5. Cluster One Sub-group Mean\(^1\) Scores with Naming Speed/Rate Scores Highlighted

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-group 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slower Readers ((n = 5))</td>
<td>.70 (67)</td>
<td>.50 (70)</td>
<td>4.80 (1.48)</td>
<td>4.40 (.89)</td>
<td>2.40 (1.89)</td>
<td>70.0 (23.8)</td>
<td>2.80 (1.15)</td>
<td>6.40 (1.82)</td>
<td>3.20 (.84)</td>
<td>53.0 (29.2)</td>
<td>36.2 (3.4)</td>
</tr>
<tr>
<td>Faster Readers ((n = 9))</td>
<td>1.80 (.25)</td>
<td>1.80 (.90)</td>
<td>5.70 (2.12)</td>
<td>5.90 (1.36)</td>
<td>2.10 (1.27)</td>
<td>98.0 (23.9)</td>
<td>2.90 (.50)</td>
<td>5.40 (1.24)</td>
<td>3.70 (.87)</td>
<td>126.0 (35.5)</td>
<td>26.2 (3.5)</td>
</tr>
<tr>
<td>Total for</td>
<td>1.39 (68)</td>
<td>1.32 (1.03)</td>
<td>5.40 (1.91)</td>
<td>5.40 (1.39)</td>
<td>2.20 (1.12)</td>
<td>88.0 (26.8)</td>
<td>2.80 (.75)</td>
<td>5.80 (1.48)</td>
<td>3.50 (.85)</td>
<td>99.8 (48.8)</td>
<td>30.0 (6.0)</td>
</tr>
<tr>
<td>Cluster One</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((n = 14))</td>
<td>1.39 (68)</td>
<td>1.32 (1.03)</td>
<td>5.40 (1.91)</td>
<td>5.40 (1.39)</td>
<td>2.20 (1.12)</td>
<td>88.0 (26.8)</td>
<td>2.80 (.75)</td>
<td>5.80 (1.48)</td>
<td>3.50 (.85)</td>
<td>99.8 (48.8)</td>
<td>30.0 (6.0)</td>
</tr>
</tbody>
</table>

Notes: \(^1\)Standard Deviations in Parentheses
GE = grade equivalent; RS = raw score.
learner. Some literacy programs seek this input and encourage learners to share their beliefs, stories, cultural practices, and personal goals and challenges. But in many prisons, learners’ perspectives are considered a distraction from the program, if considered at all. This situation does not lead us to reject the use of cognitive-psychological assessment approaches (and specifically, component-level reading tests). Rather, it causes us to seek ways to contextualize them within more holistic understandings of learners provided by the prisoners themselves.

**Conclusion: Part I**

We found that the reading components tests provided a more sensitive measure of reading abilities than one-dimensional tests of comprehension. But this “better map” had limits—it did not tell us how readers use their skills in day-to-day practices or how they feel about the prison’s literacy program. In Part II we will show how some of these limitations were resolved through the use of qualitative interviews, which provided insights about learners’ beliefs that anchor learning and the ideologies that contextualize instruction in prison. Also in Part II, we discuss the ways that the two data sets—qualitative and quantitative—can be juxtaposed and argue for a two-pronged assessment method.

**REFERENCES**


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**Biographical Sketch**

**BILL MUTH** is a Associate Professor of Adult Learning and Literacy at Virginia Commonwealth University, and Research Editor, *Journal of Prison Education and Reentry*.

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**GINA M. PANNOZZO** is Professor at Buffalo State University, Center for Excellence in Urban and Rural Education.
### Appendix A. Table of Reading Assessment Instruments and Reading Components Assessed

<table>
<thead>
<tr>
<th>Test</th>
<th>Reading Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Assessment of Reading (DAR) Roswell &amp; Chall (1992)</td>
<td></td>
<td>The Word Recognition test consists of graded lists of phonetically regular and irregular words participants are asked to read out loud. The Oral Reading test measures word recognition in context and fluency, but not comprehension. Participants read graded texts out loud and miscues are recorded. The Word Meaning test measures oral, expressive vocabulary by asking participants to provide a verbal meaning of a word read to them. Reading rate (syllables-per-minute) was determined by having participants reread one of the two highest level passages from the oral reading test.</td>
</tr>
<tr>
<td>Rosner Test of Auditory Analysis Skills Rosner (1975)</td>
<td>Phonemic Awareness</td>
<td>The Rosner requires participants to repeat words presented orally without pronouncing one or more sounds contained in the word. Task difficulty increases from the deletion of whole words, to blended phoneme-level deletions of a single consonant within a blend.</td>
</tr>
<tr>
<td>Woodcock Johnson Psycho-Educational Battery of Achievement Tests-III Woodcock, McGrew &amp; Mather (2001)</td>
<td>Decoding Skills</td>
<td>This test requires participants to read a list of increasingly difficult, phonetically regular pseudowords such as “schmick,” “floss.”</td>
</tr>
<tr>
<td>Rapid Automated Naming Tests—Letters Denckla &amp; Rudel (1974)</td>
<td>Naming Speed</td>
<td>Participants are asked to continuously read, as quickly and accurately as possible, a page containing 50 items from an array of letters or numbers.</td>
</tr>
</tbody>
</table>

(Continued)
### Peabody Picture Vocabulary Test
*Dunn & Dunn (1997)*
- **Receptive Vocabulary**
- **Description:** The test requires participants to listen to a verbal cue and point to one of four illustrations that best depicts the word’s meaning.

### Wechsler Adult Intelligence Scale—Digit Span Test
*Wechsler (1997)*
- **Short-Term Memory Working Memory**
- **Description:** Participants are required to repeat a series of digits in the same order or reverse order to their oral presentation by the test examiner. The number of digits presented gradually increases with each repetition.

### Adult Basic Learning Examination—Reading Comprehension
*Karlsen & Gardner (1986)*
- **Reading Comprehension**
- **Description:** Participants are required to silently read passages of increasing difficulty and answer multiple-choice comprehension questions about the passages.

### Appendix B. Factor Analysis of 11 Measures of Reading

<table>
<thead>
<tr>
<th>Test</th>
<th>Print</th>
<th>Meaning</th>
<th>Naming Speed/ Rate</th>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Recognition</td>
<td>.849</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral Reading</td>
<td>.830</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Attack</td>
<td>.828</td>
<td></td>
<td></td>
<td>.364</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>.581</td>
<td>.512</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonemic Awareness</td>
<td>.508</td>
<td></td>
<td></td>
<td>.406</td>
</tr>
<tr>
<td>RAN Letters</td>
<td>-.362</td>
<td>-.853</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syllables per Min</td>
<td>.388</td>
<td>.301</td>
<td>.743</td>
<td></td>
</tr>
<tr>
<td>Digits Forward</td>
<td></td>
<td></td>
<td></td>
<td>.825</td>
</tr>
<tr>
<td>Digits Backward</td>
<td></td>
<td></td>
<td></td>
<td>.814</td>
</tr>
<tr>
<td>Picture</td>
<td></td>
<td>.924</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Meaning</td>
<td></td>
<td>.892</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Eigenvalues less than .300 removed. Based on cases with complete data only (n = 102).*
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