European Review of Applied Psychology 73 (2023) 100821

Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en

Original article

Representations of guidance counselors, psychologists, and psychoeducators regarding psychological assessment

Les représentations en matière d'évaluation psychologique des conseillères et conseillers d'orientation, des psychologues ainsi que des psychoéducatrices et psychoéducateurs

Sabruna Dorceus*, Yann Le Corff, Éric Yergeau

Université de Sherbrooke, Department of Career Guidance, 2500 Boul. Université, J1K 2R1 Sherbrooke, Québec, Canada

ARTICLE INFO

Article history:
Received 28 June 2021
Received in revised form 6 September 2022
Accepted 8 September 2022

Keywords:
Collaborative/therapeutic assessment
Psychological assessment
Guidance counselors
Psychologists
Latent profile analysis

ABSTRACT

Introduction. – Social representations related to collaborative/therapeutic and information-gathering assessment could explain some psychological assessment practices. However, no other study has attempted to examine the actual place of these models in psychological assessment practices.
Objective. – The goal of this study was to examine the social representations of different groups of professionals with regard to their preferred approach to psychological assessment.
Method. – A latent profile analysis was conducted on a sample of licensed Canadian guidance counselors ($n = 382$), psychologists ($n = 235$), and psychoeducators ($n = 97$).
Results. – Results revealed three psychological assessment profiles, which significantly differ in terms of a few social factors. Results also showed that some psychological assessment practices differ across profiles.
Conclusion. – This study provides a better understanding of psychometric instruments users' approaches to assessment and the influence of social factors.

Mots clés :
Évaluation collaborative/thérapeutique
Évaluation psychologique
Conseillers d'orientation
Psychologues
Analyse de profils latents

RÉSUMÉ

Introduction. – Les représentations sociales liées aux modèles d'évaluation collaborative/thérapeutique et de collecte d'informations pourraient expliquer certaines pratiques d'évaluation psychologique. Toutefois, aucune autre étude ne s'est intéressée à la place qu'occupent ces modèles dans les pratiques d'évaluation psychologique.
Objectif. – L'objectif de cette étude était d'examiner les représentations sociales d'un échantillon de professionnels en matière d'évaluation psychologique.
Méthode. – Une analyse de profils latents a été réalisée sur un échantillon de conseillers d'orientation ($n = 382$), de psychologues ($n = 235$) et de psychoéducateurs ($n = 97$) canadiens.
Résultats. – Les résultats ont permis d'identifier trois profils de personnes évaluatrices, dont l'appartenance diffère significativement en fonction de facteurs sociaux. Les résultats ont aussi montré que certaines pratiques d'évaluation psychologique diffèrent selon les profils.
Conclusion. – Cette étude a permis de mieux cerner les approches d'évaluation privilégiées par les utilisateurs d'instruments psychométriques et l'influence de facteurs sociaux.

* Corresponding author. Université de Sherbrooke, Department of Career Guidance, 2500 Boul. Université, J1K 2R1 Sherbrooke, Québec, Canada.
E-mail addresses: Sabruna.Dorceus@USherbrooke.ca (S. Dorceus), Yann.Le.Corff@USherbrooke.ca (Y. Le Corff), Eric.Yergeau@USherbrooke.ca (É. Yergeau).

https://doi.org/10.1016/j.erap.2022.100821
1162-9088/

Psychometric instruments are a central part of the assessment practices of various professionals. Most notably, guidance counselors and psychologists working in the clinical, educational, and occupational fields use these instruments for various assessment needs, such as mental disorders diagnostics, career guidance, and personnel selection (Hogan, 2013; Urbina, 2014). Several studies support the efficiency of psychometric instruments in these fields (Hanson & Poston, 2011; Meyer et al., 2001; Morris et al., 2015; Sackett et al., 2008; Schmidt et al., 2016). For example, the validity of psychometric instruments seems to be comparable to that of other psychological and medical interventions (e.g., psychotherapy, electrocardiogram) (Meyer et al., 2001). Besides the clinical domain, research results also support the predictive capacity of psychometric instruments in the areas of personnel selection and education (Morris et al., 2015; Sackett et al., 2008; Schmidt et al., 2016).

Nevertheless, it is important to note that psychometric instruments remain tools made available to professionals who play a central role in determining their practical usefulness and impact (Cohen & Swerdlik, 2010; Urbina, 2014). Psychological assessment practices are thus important to consider in terms of their appropriateness to avoid undermining the efficacy of instruments and causing prejudice to assessed individuals (Miller & Lovler, 2016; Urbina, 2014). In this regard, the present study aims to examine a potential cognitive dimension underlying professional practices regarding psychological assessment as a possible explanation for these practices, namely social representations, which can be defined as "systems of opinions, knowledge, and beliefs particular to a culture, a social category, or a group with regard to objects in the social environment" (Rateau et al., 2012, p. 478). This raises a few research questions. Do certain groups of professionals share common social representations regarding psychological assessment? Are those representations regarding psychological assessment socially anchored? Is adherence to certain social representations regarding psychological assessment associated with specific psychological assessment practices? A better understanding of professionals' social representations regarding psychological assessment could help in maintaining good practices and adjust inadequate ones through teaching and continuing education.

1. The study of professional practices

When studying professional practices, some authors argue that both behavioral and cognitive dimensions of practices should be considered (Altet, 2000, 2002; Deaudelin et al., 2007). Indeed, in addition to professional acts, professionals' knowledge (Altet, 2000; Quéré, n.d., in Paul & Perriault, 2004), competences (Altet, 2000), thoughts and representations (Quéré, n.d., in Paul & Perriault, 2004) help provide a deeper understanding of professional practices.

Most studies pertaining to psychological assessment practices focus on the actual professional acts but rarely on the underlying cognitive elements that could explain these practices. Those that address some cognitive elements focus mainly on the perceived benefits and barriers of psychometric instruments (Cook et al., 2017; Corkum et al., 2007; Harris & Joy, 2010; Wright et al., 2017). Knowing about professionals' thoughts, opinions, attitudes, and beliefs regarding their whole approach to psychological assessment could provide potential explanations for common psychological assessment practices. In that sense, social representations provide an avenue worth exploring to better understand psychological assessment practices. Indeed, this concept could be utilized in a similar perspective as in other studies pertaining to professional practices in education as well as in the healthcare and social services field (Lavoie, 2018; Novara et al., 2017) to explore the nature of the social representations of professionals in relation to their psychological assessment practices.

2. Social representations and the sociodynamic framework

The social representations theory makes it possible to further the study of cognitive elements (opinions, knowledge, beliefs) underlying psychological assessment practices of targeted professionals through a sociodynamic approach (Rateau et al., 2012; Rateau & Lo Monaco, 2013).

Referring to the general definition of social representations that was presented above, it is important to note that social representations are organized as a structure of cognitive elements that interact with each other (Rateau et al., 2012; Rateau & Lo Monaco, 2013). They are also shared by the members of a particular social group and collectively constructed through a process of individuals' exchanges and mass communication (Rateau et al., 2012; Rateau & Lo Monaco, 2013). In addition, they are socially useful in the sense that they allow the understanding of the social environment, guide individuals through social interactions with other groups, guide social practices and can help justify behaviors (Rateau et al., 2012; Rateau & Lo Monaco, 2013).

In the sociodynamic framework, social representations are viewed as both principles generating position taking, namely points of view expressed by individuals, and organizing principles of individual differences (Rateau et al., 2012; Rateau & Lo Monaco, 2013). Thus, they represent common principles among group members from which individual divergences can emerge (Rateau et al., 2012; Rateau & Lo Monaco, 2013). The sociodynamic approach also focuses on the anchoring of social representations, namely the influence of social memberships on the importance attributed to different principles (Rateau et al., 2012; Rateau & Lo Monaco, 2013). Therefore, the sociodynamic study of social representations consists in using multiple analysis methods to highlight 1) relations between social representations and 2) relations between individuals or groups and social representations (Rateau et al., 2012; Rateau & Lo Monaco, 2013). This also implies establishing relations between social memberships and position taking in order to highlight the organizing principles of the targeted social representations (Rateau et al., 2012; Rateau & Lo Monaco, 2013).

In the context of this study, the sociodynamic analysis of social representations regarding psychological assessment involves exploring relations between principles constituting professionals' social representations and relations between groups of professionals and their social representations. In relation to social anchoring, this type of approach also entails examining the influence of social factors, such as professional affiliation and workplace, on the organization of social representations regarding psychological assessment. In order to do so, two psychological assessment models emerge from the literature, thus offering a reference framework relative to the possible content of social representations regarding psychological assessment, which is a central part of the psychological assessment process: the information-gathering (IG) and the collaborative/therapeutic (C/T) models (Finn & Tonsager, 1997; Miller & Lovler, 2016).

3. Principles of the IG and Collaborative/therapeutic Models of Assessment

These two models show particularities with regard to their goals, assessee's degree of involvement, assessor's role, focus of attention, and usefulness of psychometric instruments (Finn et al., 2012; Finn & Tonsager, 1997). With respect to the IG assessment model, also regarded as a traditional and psychometric approach (Korchin & Schuldberg, 1981; Tallent, 1992),

psychological assessment is essentially considered as a method of collecting accurate information on the assessee that facilitates communication between professionals and decision-making regarding the assessee (Finn & Tonsager, 1997; Miller & Lovler, 2016). In view of these objectives, the assessment process consists of collecting data on the individual, interpreting them unilaterally, and making recommendations (Finn & Tonsager, 1997). In that regard, it is important to note that throughout this process, the participation of the assessee is limited, especially with regard to results interpretation (Cohen & Swerdlik, 2010; Finn & Tonsager, 1997). In addition, little information is shared with the assessee during the process (Finn & Tonsager, 1997). As for assessors, their role consists of adopting an objective and structured approach throughout the process (Finn & Tonsager, 1997). Lastly, the IG model focuses on the instruments results and the decision-making that stems from their interpretation (Finn & Tonsager, 1997). Psychometric instruments are therefore largely favoured in gathering information about assessees for their metrological characteristics, namely their reliability, validity, and ability to predict behavior (Finn & Tonsager, 1997; Korchin & Schuldberg, 1981; Tallent, 1992).

As for the C/T assessment model, a global perspective of Finn and Tonsager (1997)'s paradigm is favoured in the present research. In addition to pursuing a traditional goal of IG for decision-making (Finn, 2007; Finn & Tonsager, 1997), C/T assessment considers psychological assessment primarily as a C/T intervention (Finn, 2007; Finn & Tonsager, 1997). Psychological assessment thus primarily aims an improvement in assessees' self-knowledge (Cohen & Swerdlik, 2010; Finn & Tonsager, 1997; Miller & Lovler, 2016; Urbina, 2014), which allows them to make changes in their life (Finn & Tonsager, 1997; Miller & Lovler, 2016; Urbina, 2014). In terms of these objectives, the assessment process consists of developing an empathic connection with the assessee, asking the assessee to come up with questions they'd like answered during the process, working collaboratively to define individualized goals and sharing assessment results throughout the process (Finn et al., 2012; Finn & Tonsager, 1997). Thus, the C/T assessment process is marked by the active contribution of the assessee (Finn et al., 2012; Finn & Tonsager, 1997). Throughout the process, an active role is also fostered for assessor who are considered as both observers and participants (Finn & Tonsager, 1997) in the sense that they determine the structure of the process through their own theoretical framework, experience, and personality (Finn, 2007; Finn & Tonsager, 1997). Moreover, a central place is given to the processes occurring between the assessee and the assessor as well as their subjective experience, which contributes to a deeper understanding of the assessee and the development of an empathic connection (Finn & Tonsager, 1997). The relational perspective characterizing the C/T approach thus favours the maintenance of a good working alliance (Finn et al., 2012; Finn & Tonsager, 1997). Finally, on top of recognizing the importance of the metrological characteristics of psychometric instruments, C/T assessors perceive psychometric instruments as tools that allow better communication with assessees and access to their experience, which favours a better empathy from assessors (Finn et al., 2012; Finn & Tonsager, 1997).

In sum, in the context of the study of social representations regarding psychological assessment, it seems appropriate to retain characteristics from both psychological assessment models to examine professionals' preferred approaches to assessment. In that respect, it is interesting to note that some studies have examined the frequency of specific C/T assessment practices related to test feedback among psychologists (Curry & Hanson, 2010; Jacobson et al., 2015), while other studies have addressed the efficacy of C/T assessment compared to other approaches, including IG (Aschieri et al., 2015; Hanson & Poston, 2011). However, no other study has attempted to examine the actual place of the C/T and IG assessment models in psychological assessment practices. In addition, the present study not only addresses test feedback, but key principles related to assessment goals, assessee's degree of involvement, assessor's role, focus of attention, and usefulness of psychometric instruments.

Therefore, the study of social representations related to IG and C/T assessment should provide a more in-depth understanding of psychometric instruments users' preferred approaches to psychological assessment and the influence of social factors such as professional affiliation and workplace. It could also provide an explanation for some psychological assessment practices with regard to their potential relation to social representations.

4. The present study

Therefore, the general objective of this article is to examine the social representations of different groups of professionals with regard to their preferred approach to psychological assessment as they relate to their practices. Focusing on relations between groups and their social representations, the first objective is to establish a social representations typology by grouping professionals into profiles based on shared principles regarding their preferred approach to psychological assessment (goals of assessment, assessee's degree of involvement, assessor's role, focus of attention, usefulness of psychometric instruments). The second objective is to determine the extent to which social representations regarding psychological assessment are socially anchored by examining whether psychological assessment profiles membership differs in terms of professional affiliation, years of professional experience, workplace, and served clientele. Finally, the third objective is to compare psychological assessment profiles in terms of specific motives for using psychometric instruments and psychological assessment practices (psychological assessment frequency; testing and interpretation modalities; main assessed construct). Given that the present research is a first attempt at examining social representations related to psychological assessment, hypotheses are not specifically tested.

5. Method

5.1. Participants

All guidance counselors ($N = 2302$), psychologists ($N = 6096$), and psychoeducators ($N = 4192$)[1] registered as active members of their respective licencing boards in the Province of Quebec (Canada) in 2017 (Ordre des conseillers et conseillères d'orientation du Québec [OCCOQ, 2017]; Ordre des psychoéducateurs et psychoéducatrices du Québec [OPPQ, 2017]; Ordre des psychologues du Québec [OPQ, 2017]) and having provided an email address were solicited on a voluntary basis.

Out of all invitations, 30.4% of guidance counselors, 7.0% of psychologists, and 3.8% of psychoeducators have accessed the consent form. A total of 16.6% of guidance counselors ($n = 382$), 3.9% of psychologists ($n = 235$), and 2.3% of psychoeducators ($n = 97$) answered questions related to social representations regarding psychological assessment, which represents the initial study sample[2]. Finally, 14.7% of guidance counselors ($n = 339$), 3.3% of psychologists ($n = 202$), and 2.0% of psychoeducators ($n = 83$) who were solicited com-

[1] Psychoeducators are licensed professionals who work in the field of mental health and human relations in Quebec. Their scope of practice includes the assessment of individuals' adaptation difficulties and adaptive capacity (OPPQ, 2014).

[2] This is an initial sample in the sense that the sample size varies according to the aspects of the practices under study that target subsamples of respondents according to their responses. Respondents with missing data on the targeted practices are also excluded from the analyses.

pleted the entire questionnaire. The study sample is composed of professionals with an average age of 43.4 years old (SD = 10.3). A majority of these professionals (57.4%) have more than 10 years of professional experience. They work primarily in education (49.0%), private practice (23.0%) and health and social services (17.7%). In addition, they work mostly with adults aged 18 to 59 years old (63.9%), adolescents (49.8%), children (28.2%) and seniors aged 60 and over (21.3%).

5.2. Material

Data collection was conducted using a bilingual (French and English) online questionnaire (maximum duration of 30 minutes) using the Limesurvey software hosted on a secured server of the researchers' affiliated university. The content of the present questionnaire is based on a previous questionnaire developed and administered as part of the *Enquête sur les pratiques en matière d'évaluation psychométrique des conseillers et conseillères d'orientation du Québec* (Dorceus, Le Corff, Yergeau, Gingras, & Savard, 2014; Dorceus, Le Corff, Yergeau, Savard, & Gingras, 2014), but enhanced to reflect the practices of additional professionals (i.e. psychologists and psychoeducators) and variables specific to this project (e.g., social representations regarding psychological assessment).[3]

In order to take into account the particularities of the three groups of professionals targeted by this study, three versions of the same questionnaire were developed by adapting certain questions (e.g., workplaces, intervention sectors). The original French version of the questionnaire was then directly translated (from French to English) by the research team made up of three bilingual individuals with experience in translating and validating questionnaires and with in-depth knowledge of item writing principles. The research team also assessed the equivalence of the French and English versions of the questionnaire. Finally, the three bilingual versions of the questionnaire were pre-tested. Seven professionals (French- and English-speaking) from the target population (three guidance counselors, two psychologists, and two psychoeducators) took part in this pre-test. The pre-test assessed the duration of the questionnaire, the clarity of the questions and response options, the ability of the questions and response options to capture professional practice, the order of the questions, the overall flow of the survey, and the functionality of the web interface. Respondents were also invited to make any other comments about the survey. The final version of the questionnaire was adjusted based on the comments.

5.2.1. Objective 1

The first objective mobilizes social representations regarding psychological assessment measured in terms of level of agreement (5-point Likert-type scale where 1 = "Strongly disagree", 2 = "Somewhat disagree", 3 = "Neither agree nor disagree", 4 = "Somewhat agree" and 5 = "Strongly agree") towards 15 statements on the characteristics of the IG and C/T models of assessment (goals, assessee's degree of involvement, assessor's role, focus of attention, and usefulness of psychometric instruments).

5.2.2. Objective 2

The second objective involves profiles based on social representations regarding psychological assessment (objective 1) and four other nominal variables: professional affiliation (guidance counselor, psychologist, and psychoeducator), years of professional experience (5 categories), workplaces, and clientele (as binary variables corresponding to whether or not the professionals mainly work in the four proposed workplaces and with the four proposed clienteles)[4].

5.2.3. Objective 3

Finally, the third objective also mobilizes psychological assessment profiles (objective 1) as well as the approval levels regarding five motives for using psychometric instruments (5-point Likert-type scale ranging from "Not at all" to "Extremely"), the frequency of psychological assessment (6-point ordinal scale ranging from "Never" to "7 times a week or more"), the proportion of individual and group testing (ratio out of a total of 100%), the frequency of individual and group interpretation following group testing (5-point Likert-type scale ranging from "Never" to "Always"), and the main assessed construct (nominal variable with five categories)[5].

5.3. Procedure

Recruitment began after ethics approval was obtained from the research ethics committee of the researchers' affiliated university. A first wave of invitations was sent on November 17, 2016 to OCCOQ (targeted email) and OPPQ (newsletter) members, as well as on December 5, 2016 to OPQ members (targeted email) through the mailing lists of these professional orders. Email reminders were then sent to OCCOQ (2 targeted email reminders) and OPPQ (1 newsletter reminder) members during the months of December 2016 and January 2017. Afterwards, the invitation was shared on the social media accounts of the research team (*LinkedIn*, *Facebook*, and *Twitter*) during the months of January and February 2017. The invitation was also posted on the websites of the Association des psychologues du Québec (APQ) (home page banner) and the Société québécoise pour la recherche en psychologie (SQRP) (message board) at the end of January 2017. Finally, other email invitations were sent at the end of January 2017 via the Institut de recherches psychologiques and SQRP mailing lists, and in mid-March 2017 by the APQ. Data collection officially ended on March 31, 2017.

6. Results

6.1. Social representations' typology regarding psychological assessment

Latent profile analysis with robust maximum likelihood estimation was conducted in Mplus 8.1 (Muthén & Muthén, 2017) in order to identify groups of professionals who shared social representations regarding their preferred approach to psychological assessment (objective 1). Scores from 15 statements pertaining to different aspects of psychological assessment were used to form the groups. To determine the optimal number of groups (latent profiles), one-to-six profile models were tested. Multiple model fit measures were used to compare the overall fit of each tested model (Nylund et al., 2007). The Bayesian information criteria (BIC) and sample-size-adjusted BIC (BIC_{ssa}) were first examined as smaller values indicate better fitted models. The Bootstrapped likelihood ratio test (BLRT) and adjusted Lo-Mendell-Rubin likelihood ratio test (adjusted LRT) were also used to verify the probability that each model had a better fit than the previous model containing one less profile ($p < .05$). Finally, the entropy index was consulted to

[3] A copy of the questionnaire is available as supplementary material.

[4] Workplaces and served clientele that were included in the analyses were selected based on their sample size and their occurrence across all three professional groups.

[5] The targeted motives and practices were selected in terms of their relevance to the information-gathering and therapeutic approaches to assessment.

Table 1
Summary of Latent Profile Analyses of Professionals' Social Representations.

Model	*N* for each latent profile	BIC	BIC_{ssa}	Entropy	BLRT *p* value	Adjusted LRT *p* value
One-profile	C1:714	30 051.82	29 956.57	–	–	–
Two-profile	C1:287 C2:427	29 578.30	29 432.23	.70	.00	.00
Three-profile	C1:299 C2:275 C3:140	29 266.73	29 069.87	.72	.00	.03
Four-profile	C1:119 C2:77 C3:333 C4:185	29 168.39	28 920.72	.76	.00	.06
Five-profile	C1:57 C2:130 C3:344 C4:120 C5:63	29 120.06	28 821.58	.79	.00	.34
Six-profile	C1:128 C2:314 C3:53 C4:62 C5:42 C6:115	29 107.99	28 758.71	.79	.00	.20

Note. N = 714. BIC = Bayesian information criteria; BIC_{ssa} = sample-size-adjusted Bayesian information criteria; BLRT = Bootstrapped likelihood ratio test; Adjusted LRT = adjusted Lo-Mendell-Rubin likelihood ratio test.

determine the probability that each case was assigned to the right profile (Frankfurt et al., 2016).

After testing one-to-six profile models, the three-profile model provided the best fit (BIC = 29 266.73, BIC_{ssa} = 29 069.87, entropy = .72). Although the lower BIC and BIC_{ssa} as well as the higher entropy values for the four-to-six profile models indicated better fit (Four-profile model: BIC = 29 168.39, BIC_{ssa} = 28 920.72, entropy = .76; Five-profile model: BIC = 29 120.06, BIC_{ssa} = 28 821.58, entropy = .79; Six-profile model: BIC = 29 107.99, BIC_{ssa} = 28 758.71, entropy = .79), the non-significant adjusted LRT suggests that the increase in the number of profiles is not justified compared with the more parsimonious three-profile model (see Table 1). The estimated means and standard deviations of the fifteen variables included in the three-profile model are presented by profile in Table 2. The graphical representation of the three psychological assessment profiles is shown in Fig. 1.

Considering the description of assessment models that were presented previously, the three profiles were respectively labeled as the C/T, IG and enthusiastic profiles of assessors. The profiles of assessors are described in terms of the principles they agree (M = 4.00 and above), tend to agree (M = between 3.50 and 4.00) and tend to disagree on (M = 2.50 and below)[6]. C/T assessors represent 41.9% of the overall sample. This type of assessors supports the idea that psychological assessment is an intervention that aims to enhance self-awareness of the assessee. In addition, they tend to favour the involvement of the assessee throughout the assessment process, from the formulation of assessment goals to the interpretation of assessment results. Moreover, they tend to focus on the processes occurring between the assessee and the assessor as well as their subjective experience. This is consistent with their tendency to value psychometric instruments for their ability to facilitate dialogue with assessees and access to their subjective experience. Although, C/T assessors tend to focus mainly on the C/T aspects of the assessment process, they also tend to view, but to a lesser extent than the other two groups of assessors, psychological assessment as an IG method that facilitates decision-making and communication between professionals. Lastly, they also tend to favour an objective and structured approach from the assessor, but to a lesser degree than other types of assessors. IG assessors represent 38.5% of the overall sample. They endorse the idea that psychological assessment is an IG method that facilitates decision-making as well as the idea that the assessor should adopt an objective and structured approach throughout the assessment process. They also tend to view psychological assessment as an IG method that facilitates communication between professionals. Consistent with an IG approach, this type of assessors tends to consider psychometric instruments' results and decision-making as central to the assessment process and value the metrological characteristics of psychometric instruments. In addition, they tend to agree with the idea that psychometric instruments' results should be interpreted independently by the assessor. Although assessors who belong to this profile are mainly characterized by a focus on IG, they still acknowledge, to a lesser extent than the other two types of assessors, the idea that psychological assessment is an intervention that aims to enhance self-awareness of the assessee. Finally, IG assessors tend to disagree with the ideas that the assessor should have an active and influential role in the process and that the usefulness of psychometric instruments relates to their ability to facilitate dialogue with the assessee. The third profile, the enthusiastic assessors, represents 19.6% of the overall sample. They seem to endorse both approaches and agree with most principles. The principles they most agree with, and to a greater extent than the other two types of assessors, are the different goals of psychological assessment as both an IG method and a C/T intervention.

6.2. Determining social anchoring of psychological assessment profiles

To examine whether psychological assessment profiles membership differs on specific social factors (objective 2), chi-square tests were performed in SPSS. Results presented in Table 3 reveal significant differences in the composition of psychological assessment profiles in terms of professional affiliation ($p < .001$), years of

[6] As a reminder, social representations regarding psychological assessment on which those profiles are based were measured in terms of level of agreement on a 5-point Likert-type scale where 1 = "Strongly disagree", 2 = "Somewhat disagree", 3 = "Neither agree nor disagree", 4 = "Somewhat agree" and 5 = "Strongly agree". The cut-off points were determined to reflect the levels of agreement as measured by this scale.

Table 2
Estimated Means and Standard Deviations for Each Variable by Profile.

Variables	C/T (n = 299)		IG (n = 275)		Enthusiastic (n = 140)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Psychological assessment is an IG method that facilitates decision-making. (SR_1)	3.75	0.64	4.28	0.64	4.54	0.64
Psychological assessment is an IG method that facilitates communication between professionals. (SR_2)	3.54	0.76	3.91	0.76	4.39	0.76
Psychological assessment is an intervention that aims to enhance self-awareness of the assessee. (SR_3)	4.05	0.76	3.81	0.76	4.52	0.76
Psychological assessment is an intervention that seeks a change in the assessee. (SR_4)	2.58	0.88	2.53	0.88	3.82	0.88
Assessment goals should be determined independently by the assessor. (SR_5)	3.01	1.01	3.20	1.01	3.47	1.01
The assessee should participate in the formulation of individualized assessment goals. (SR_6)	3.71	0.96	3.26	0.96	3.82	0.96
Psychometric instruments' results should be interpreted independently by the assessor. (SR_7)	3.01	1.03	3.90	1.03	3.73	1.03
The assessee should be involved in the interpretation of psychometric instruments' results. (SR_8)	3.95	1.08	2.52	1.08	3.78	1.08
An objective and structured approach is required from the assessor throughout the psychological assessment process. (SR_9)	3.50	0.93	4.13	0.93	4.11	0.93
An active and influential role is favoured in the assessor throughout the psychological assessment process. (SR_{10})	2.59	1.09	2.23	1.09	3.58	1.09
Psychometric instruments' results and decision-making are central to the psychological assessment process. (SR_{11})	3.05	0.80	3.88	0.80	4.17	0.80
Processes occurring between the assessee and the assessor as well as their subjective experience are central to the psychological assessment process. (SR_{12})	3.68	0.89	3.15	0.89	4.16	0.89
The value of psychometric instruments primarily relates to their metrological characteristics: reliability, validity and predictive ability. (SR_{13})	3.44	0.87	3.85	0.87	4.06	0.87
The value of psychometric instruments primarily relates to their ability to facilitate dialogue with the assessee. (SR_{14})	3.59	0.88	2.42	0.88	3.78	0.88
The value of psychometric instruments primarily relates to their ability to facilitate access to the assessee's subjective experience. (SR_{15})	3.59	0.88	2.57	0.88	3.79	0.88

Note. SR = variable related to social representations; C/T = Collaborative/Therapeutic; IG = Information-gathering.

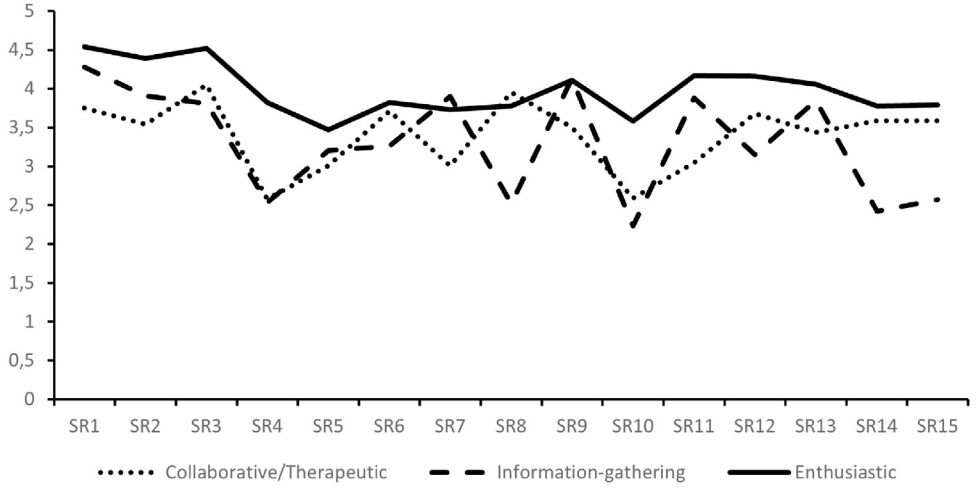

Fig. 1. Estimated mean level of agreement towards 15 statements regarding psychological assessment based on the most likely latent profile in the three-profile model. Note. SR = variable related to social representations. Level of agreement measured on a 5-point Likert-type scale where: 1 = strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree.

professional experience (p = .004), as well as affiliation to the health and social services sector (p = .029), children clientele (p < .001), and adult clientele (p < .001). According to Cohen's benchmarks (Cohen, 1988), these differences all show small effect sizes, except for those related to professional affiliation and children clientele that indicate moderate effect sizes.

In light of specific group comparisons, it appears that there's a greater proportion of guidance counselors in the C/T profile than in the other two profiles, while there's a greater proportion of psychologists in the IG profile than in the other two profiles. In addition, the IG profile is composed of a greater proportion of psychoeducators than the C/T profile. In terms of professional experience, the C/T profile comprises a greater proportion of less experienced professionals (5 years and less) than the other two profiles, while the IG profile is composed of a greater proportion of experienced professionals (more than 20 years) than the C/T profile. As for workplaces and clientele, the IG profile includes a greater proportion of professionals who work mainly in health and social services compared to the C/T profile. Lastly, a greater proportion of professionals who work mainly with children is found in the IG profile than in the other two. By contrast, both the C/T and enthusiastic profiles include a greater proportion of professionals who work mainly with adults (18-59 years old) than the IG profile.

Table 3
Sociodemographic Characteristics (%) According to Psychological Assessment Profiles.

	C/T	IG	Enthusiastic			
	%	%	%	χ^2	*df*, *N*	Cramér's V
Professional affiliation				148.21***	4, 714	.32
Guidance counselors	77.6_a	27.6_b	52.9_c			
Psychologists	13.0_a	52.7_b	36.4_c			
Psychoeducators	9.4_a	19.6_b	$10.7_{a,b}$			
Years of professional experience				22.35**	8, 624	.13
5 years and less	34.6_a	20.8_b	20.2_b			
6-10 years	16.9_a	15.0_a	16.9_a			
11-15 years	19.2_a	17.9_a	19.4_a			
16-20 years	12.7_a	19.2_a	16.9_a			
More than 20 years	16.5_a	27.1_b	$26.6_{a,b}$			
Workplaces[1]					2, 623	
Education	53.5_a	47.5_a	42.3_a	4.51		.09
Rehabilitation	8.8_a	7.9_a	9.8_a	0.37		.02
Health and Social Services	13.1_a	22.1_b	$18.7_{a,b}$	7.08*		.11
Private Practice	20.4_a	21.7_a	30.9_a	5.58		.10
Served Clientele[2]					2, 624	
Children (0-12 y/o)	13.1_a	44.6_b	28.2_c	61.18***		.31
Adolescents (13-17 y/o)	53.1_a	48.3_a	46.0_a	2.05		.06
Adults (18-59 y/o)	71.2_a	54.2_b	67.7_a	16.59***		.16
Seniors (60 y/o and over)	18.8_a	22.1_a	25.0_a	2.03		.06

Note. y/o = years old; C/T = Collaborative/Therapeutic; IG = Information-gathering. Column proportions represent the proportion of each sociodemographic characteristic out of the total composition of the corresponding assessment profile. Different subscript letters indicate significant differences between column proportions at the $p < .05$ level. Same subscript letters indicate non-significant differences between column proportions at the $p < .05$ level. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.
[1,2]Variables related to workplaces and served clientele are binary (yes, no). Only "yes" proportions are presented in the table.

6.3. Comparison of specific practices according to psychological assessment profiles

In order to compare psychological assessment profiles in terms of specific psychological assessment practices (objective 3), a series of one-way analyses of variance (ANOVAs) (psychological assessment frequency, testing and interpretation modalities, and motives for using psychometric instruments) and one chi-square test (main assessed construct) were conducted in SPSS. Table 4 presents ANOVAs results regarding motives, psychological assessment frequency, and assessment modalities. On the one hand, psychological assessment profiles significantly differ in terms of their level of consideration of the objectivity of the measurement ($p < .001$), the improvement in decision-making ($p < .001$), and the necessity of psychometric instruments for some assessment procedures ($p < .001$), as motives for using psychometric instruments. More specifically, both IG and enthusiastic assessors agree to these three motives (objectivity, improvement in decision-making and necessity for some assessment procedures) to a greater extent than C/T assessors. The significant difference regarding the objectivity of the measurement shows a small to moderate effect size, while the one related to the improvement in decision-making indicates a moderate to large effect size and the one about the necessity of psychometric instruments for some assessment procedures reveals a large effect size. In addition, a significant difference is also observed regarding the improvement in interviews' depth ($p < .001$), which reveals a small to moderate effect size. More specifically, enthusiastic assessors agree to this motive to a greater extent than both IG and C/T assessors. Results also indicate that C/T assessors agree to this motive to a greater extent than IG assessors. On the other hand, although results show a significant difference regarding the improvement in the quality of the working alliance ($p < .001$), it appears that enthusiastic assessors agree to this motive to a greater extent than both IG and C/T assessors. This significant difference indicates a moderate effect size.

Furthermore, a significant difference is observed between psychological assessment profiles in terms of psychological assessment frequency ($p < .001$), which indicates a small to moderate effect size. Indeed, enthusiastic assessors use psychometric instruments more frequently than both C/T and IG assessors. Results also indicate that C/T assessors use psychometric instruments less often than the other types of assessors.

On another note, ANOVAs results pertaining to assessment modalities show that psychological assessment profiles differ significantly in terms of individual ($p < .001$) and group testing proportions ($p < .001$), both differences indicating small effect sizes. IG assessors conduct individual testing in a greater proportion than C/T assessors, and, inversely, C/T assessors conduct group testing in a greater proportion than IG assessors. Lastly, psychological assessment profiles do not differ significantly in terms of individual ($p = .443$) and group interpretation frequency ($p = .183$), when following group testing.

Lastly, Table 5 presents the chi-square test results comparing the proportions of each type of assessors who mainly assess vocational interests, personality, abilities (cognitive and other), mental health, and other constructs. Results show that C/T, IG and enthusiastic assessors significantly differ in terms of the main assessed construct ($p < .001$), which indicates a moderate effect size. More specifically, it appears that a greater proportion of C/T (48.2%) and enthusiastic assessors (36.9%) mainly assess vocational interests than IG assessors (14.9%). In addition, a greater proportion of IG assessors (43.3%) mainly assess abilities (cognitive and other) than both C/T (7.5%) and enthusiastic assessors (21.6%).

7. Discussion

The general objective of this article was to examine the social representations of licensed guidance counselors, psychologists, and psychoeducators, with regard to their preferred approaches to psychological assessment. Results revealed three psychological assessment profiles who differ in terms of motives for using psychometric instruments, psychological assessment frequency, proportions of individual and group testing, and the main assessed construct. Moreover, it appears that profiles membership is influenced by social factors such as professional affiliation, years of professional experience, affiliation to the health and social services sector, and age of clientele.

Table 4
Comparisons of Psychological Assessment Motives and Practices by Psychological Assessment Profiles.

	C/T	IG	Enthusiastic			
Dependent Variable	M (SD)	M (SD)	M (SD)	ANOVA *F* test	*df*	ω^2
Motives						
Objectivity	$3.69\ (0.90)_a$	$4.11\ (0.82)_b$	$4.09\ (0.81)_b$	16.28***	2, 320	.05
Improvement in decision-making	$3.49\ (0.87)_a$	$4.04\ (0.81)_b$	$4.16\ (0.74)_b$	38.60***	2, 328	.11
Improvement in working alliance	$2.74\ (1.10)_a$	$2.62\ (1.09)_a$	$3.45\ (1.02)_b$	24.54***	2, 598	.07
Improvement in interviews' depth	$3.30\ (1.05)_a$	$3.07\ (1.04)_b$	$3.73\ (1.04)_c$	15.47***	2, 598	.05
Necessity for some assessment procedures	$3.10\ (1.18)_a$	$4.19\ (0.90)_b$	$4.12\ (0.94)_b$	72.28***	2, 322	.20
Practices						
Psychological assessment frequency	$3.12\ (1.03)_a$	$3.41\ (1.27)_b$	$3.80\ (1.21)_c$	14.97***	2, 307	.04
Individual testing (%)	$85.07\ (27.42)_a$	$94.92\ (15.96)_b$	$89.89\ (24.81)_{a,b}$	11.80***	2, 277	.03
Group testing (%)	$14.58\ (26.96)_a$	$5.08\ (15.96)_b$	$10.11\ (24.81)_{a,b}$	11.27***	2, 276	.02
Individual interpretation frequency	$3.50\ (1.43)_a$	$3.13\ (1.65)_a$	$3.34\ (1.37)_a$	0.82	2, 146	.00
Group interpretation frequency	$2.94\ (1.71)_a$	$2.55\ (1.59)_a$	$3.30\ (1.62)_a$	1.72	2, 152	.01

Note. C/T = Collaborative/Therapeutic; IG = Information-gathering; ANOVA = analysis of variance. Group sizes were as follows for motives, psychological assessment frequency, individual/group testing proportions, individual interpretation frequency and group interpretation frequency, respectively: 601 for all motives, 620, 575, 574, 149 and 155. Different subscript letters indicate significant differences between means at the $p < .05$ level. Same subscript letters indicate non-significant differences between means at the $p < .05$ level. ***$p < .001$.

Table 5
Main Assessed Construct (%) According to Psychological Assessment Profiles.

	C/T ($n = 228$) %	IG ($n = 201$) %	Enthusiastic ($n = 111$) %	χ^2 (8, 540)	Cramér's V
Main assessed construct				97.89***	.30
Vocational Interests	48.2_a	14.9_b	36.9_a		
Personality	23.7_a	19.4_a	18.9_a		
Abilities	7.5_a	43.3_b	21.6_c		
Mental Health	10.1_a	12.9_a	15.3_a		
Other	10.5_a	9.5_a	7.2_a		

Note. C/T = Collaborative/Therapeutic; IG = Information-gathering. Group sizes were as follows for vocational interests, personality, abilities (cognitive and other), mental health and other types of assessment, respectively: 181, 114, 128, 66 and 51. Column proportions represent the proportion of assessors who mainly assess each construct out of the total composition of the corresponding assessment profile. Different subscript letters indicate significant differences among column proportions at the $p < .05$ level. Same subscript letters indicate non-significant differences between column proportions at the $p < .05$ level. ***$p < .001$.

Analyses were guided by a sociodynamic perspective, which provides a better understanding of the relations between groups of professionals and social representations regarding psychological assessment. Specifically, the latent profile analysis indicated the existence of three profiles of professionals who share principles pertaining to psychological assessment. According to the sociodynamic perspective, the social representations shared by members of these profiles should explain, to some extent, some of their behaviors (Rateau et al., 2012; Rateau & Lo Monaco, 2013).

Furthermore, the identification of a C/T and an IG profiles is consistent with the literature from which two main assessment approaches emerge (e.g., Miller & Lovler, 2016). They both represent a significant proportion of the sample, respectively 41.9% and 38.5%. The C/T profile includes professionals who view psychological assessment primarily as an intervention, endorse the involvement of the assessee in the assessment process and value psychometric instruments' ability to facilitate communication with assessees and access to their subjective experience. Nevertheless, it is interesting to note that assessors within this approach also tend to agree with some IG principles, such as the perspective of psychological assessment as an IG method that facilitates decision-making and communication between professionals. This shows that, as discussed by Finn and Tonsager (1997), the C/T approach is complementary to the IG approach in the sense that beyond using psychometric instruments to collect information, the primary goal is to use them as tools for intervention.

As for the IG profile, it shows both a clearer preference for related principles, such as an emphasis on decision-making, instruments' results and objectivity, and disagreement with some of the key C/T principles. In addition, the consideration of psychological assessment as an intervention that aims to enhance self-awareness of the assessee by both IG and C/T assessors suggests that both perspectives share certain principles regarding the purposes of psychological assessment in intervention.

Interestingly, a third profile of assessors was identified as a group of professionals who seemingly endorse principles from both the C/T and IG perspectives. The fact that they express a greater level of agreement towards most principles, in particular the goals of assessment, the C/T role of the assessor and the focus of attention, compared to the two other types of assessors suggests a general enthusiasm towards psychological assessment. It also suggests that some professionals do not necessarily favour one psychological assessment approach over another and that they use both. It could be that their preferred approach varies according to their assessment goals.

Moreover, psychological assessment profiles membership appears to be socially anchored in the sense that the importance attributed to different IG and C/T principles varies in terms of social factors, namely professional affiliation, years of experience, affiliation to the health and social services sector, and age of clientele. First, it is interesting to note that guidance counselors are more prone to endorsing a C/T approach, while psychologists and psychoeducators are more likely to adopt an IG approach to assessment. It could be that these models are integrated in the training of these professionals. However, it is difficult to find any official information pertaining to these professionals' preferred approaches to psychological assessment. Indeed, their respective assessment guides show a particular attention towards maintaining a good working alliance when assessing individuals, but there's no mention of any preferred approach when using psychometric

instruments (OCCOQ, 2010; OPQ, 2011; OPPQ, 2014). On another note, Jacobson et al.'s (2015) study provides some insight regarding Canadian psychologists' practices consistent with a C/T approach. Although providing verbal and written test feedback and allowing assessees to ask questions about the results are common practice for a majority of Canadian psychologists, it appears that more than half of them (51.4%) report never or rarely asking assessees to come up with their own assessment questions that are meant to be addressed throughout the assessment process, an important aspect of C/T assessment (Jacobson et al., 2015). Considering the limited scope of the results, could this mean that Canadian psychologists are ambivalent about endorsing all C/T assessment principles?

Psychological assessment profiles membership also differs in terms of professional experience. Specifically, the new generation of professionals (5 years of experience and less) seems to endorse the relatively new approach to psychological assessment that is C/T assessment, while more experienced professionals (more than 20 years) prefer a more traditional approach. This could certainly be due to the evolution of training in assessment keeping up with new trends in models of assessment. These results are similar to those of Curry and Hanson (2010) which showed that for a sample of clinical, counseling and school psychologists, the number of years since graduation was negatively correlated with providing verbal feedback consistent with a C/T assessment.

Furthermore, the fact that IG profile comprises a greater proportion of professionals who work in the health and social services sector suggests that the nature of assessment activities conducted in this sector, for example mental health diagnosis, requires professionals to focus on collecting information that will facilitate decision-making and the quality (i.e. metrological characteristics) of the instruments they use to assess individuals.

Lastly, results showed that professionals who work with children are more likely to favour an IG approach, while those who work mainly with adults (18-59 years old) are less likely to adopt this assessment approach. In that respect, C/T assessment can be adapted to children as demonstrated by the work of Tharinger et al. (2009, 2011) that propose different ways to engage children in the assessment process. However, because it can be hard for children to generate their own assessment questions and get engaged in feedback sessions (Tharinger et al., 2011), C/T assessment may involve interacting mainly with their parents (Frackowiak et al., 2015). Therefore, when working directly with children, the application of C/T principles, such as involving the assessee in the formulation of assessment goals and the interpretation of instruments' results, may present some challenges. Conversely, working with adults could give professionals more opportunities to apply C/T principles thus making them more likely to adopt an approach that incorporates these elements (i.e. C/T, enthusiastic).

With respect to differences in motives for using psychometric instruments, they were consistent with the literature (e.g., Finn, 2007; Finn & Tonsager, 1997; Hanson & Poston, 2011). As expected, IG assessors consider the objectivity and necessity of psychometric instruments for some assessment activities, as well as their ability to improve decision-making as more important factors compared to C/T assessors. These results are indeed consistent with the emphasis IG assessors put on decision-making as well as instruments' results and metrological characteristics (Finn & Tonsager, 1997). As for C/T assessors, they show a greater consideration of interviews' depth as a motive for using psychometric instruments compared to IG assessors, which makes sense considering the importance they attach to the processes occurring between the assessee and the assessor as well as their subjective experience (Finn, 2007; Finn & Tonsager, 1997). In that regard, it is interesting to note that interviews' depth is generally measured as an efficiency variable in psychological assessment conducted as a C/T intervention (Hanson & Poston, 2011).

On another note, contrary to the expectation that a C/T approach should favour the maintenance of a good working alliance (Finn et al., 2012; Finn & Tonsager, 1997), C/T assessors do not significantly differ from IG assessors in terms of their consideration of psychometric instruments' ability to improve the working alliance. In fact, both types of assessors seem less convinced than enthusiastic assessors of the ability of psychometric instruments to improve the working alliance. That could be explained by the fact that it is not so much the use of these instruments but the way they are used, for instance sharing test feedback in a C/T approach, that can enhance the working alliance (Finn & Tonsager, 1997; Poston & Hanson, 2010). In this regard, Poston & Hanson's (2010) meta-analysis has shown that when combined with personalized, collaborative and participatory feedback, psychological assessment has a positive effect on a few intervention process variables, such as the working alliance and interviews' depth.

Finally, considering the nature of their profile, it comes as no surprise that enthusiastic assessors endorse motives related to the IG approach to a greater extent than C/T assessors and that they also attach more importance to C/T motives compared to IG assessors. These results are consistent with their general enthusiasm towards both psychological assessment approaches.

As for differences in practices between psychological assessment profiles, they were partially consistent with the literature. As expected, the emphasis that IG assessors put on instruments' results and decision-making as well as the metrological characteristics of psychometric instruments (Finn & Tonsager, 1997) seems to make them more likely than C/T assessors to use psychometric instruments in their practice. In addition, it appears that enthusiastic assessors use psychometric instruments more often than both IG and C/T assessors, which makes sense considering that they view psychological assessment as a versatile method that can be used as both an intervention and an IG method. In that sense, enthusiastic assessors would be more likely to use psychometric instruments in any assessment contexts.

On the other hand, results regarding potential differences in assessment modalities were unexpected. Although assessors who endorse a C/T approach to assessment should favour a more personalized process (Finn, 2007; Finn & Tonsager, 1997), results showed that it is in fact IG assessors who conduct a greater proportion of individual testing than C/T assessors. Conversely, C/T assessors are more likely to conduct group testing compared to IG assessors. Professional affiliation appears to be a confounding variable in that case. Indeed, the preponderance of guidance counselors in the C/T profile of assessors could explain why they are more likely to conduct group testing than IG assessors, a practice associated largely with guidance counselors, especially those working in schools (Dorceus, Le Corff, Yergeau, Gingras, & Savard, 2014). This would mean that beyond professionals' preferred approaches to psychological assessment, professional context can have a significant impact on actual psychological assessment practices. Finally, the lack of significant differences regarding interpretation modalities following group testing could be explained by a common preference for individualized interpretation regardless of the preferred approach to psychological assessment.

Lastly, unanticipated differences were observed between C/T and IG assessors regarding the main assessed construct. Although there are no known differences between C/T and IG assessors in terms of main assessed constructs, the literature shows that C/T assessors seem to focus on personality and psychopathology compared to other constructs (Frackowiak et al., 2015; Smith & Finn, 2014). However, the current study revealed that within our sample of professionals, C/T assessors are more likely to assess vocational interests, while IG assessors are more likely to assess abilities (cognitive and other). As introduced previously, the possible explanation for these results is the presence of a confounding effect

caused by professional affiliation. It is consistent with the fact that guidance counselors, who form a majority of the C/T profile, mainly assess vocational interests (Yergeau et al., 2012) and that psychologists, who represent most of the IG assessors, mainly conduct cognitive and symptom-based testing (Jacobson et al., 2015; Wright et al., 2017). That could also explain why enthusiastic assessors, more than half of whom are guidance counselors, are more likely to assess vocational interests than IG assessors.

8. Limitations of the present study

Some limitations of this study should be noted. First, the choice of a non-probability sampling and the low response rate may have introduced some bias with respect to the representativeness of the samples (Dillman et al., 2014; Levy & Lemeshow, 2013). Indeed, the response rates were lower than expected considering comparable online surveys (Guo et al., 2016; Le Corff et al., 2011; Monroe & Adams, 2012; Sauermann & Roach, 2012). The length of the questionnaire (Dillman et al., 2014; Guo et al., 2016), a failure to personalize invitations to participate in the survey, particularly among psychoeducators who received the invitation via their newsletter, the limited number of reminders in some cases (Dillman et al., 2014; Sauermann & Roach, 2012), and the possible disinterest in the topic of the survey (Dillman et al., 2014) may have played a role in lowering the response rates.

On another note, in the context of the study of social representations, the use of a standardized questionnaire that proposes predefined statements on which participants must position themselves has limitations as to its ability to collect all the possible content of social representations regarding psychological assessment. In this respect, social representations that were examined in this study were circumscribed around predefined dimensions according to the selected assessment models. It is possible that social representations regarding psychological assessment exceed the scope of those two models. Lastly, in relation to what is expected from a sociodynamic analysis of social representations as exposed by Rateau et al. (2012) and Rateau and Lo Monaco (2013), it is also important to note that the research objectives pursed in this study did not cover the relations between social representations regarding psychological assessment.

9. Implication for research and practice

In light of the above-mentioned limitations, different avenues for future research are proposed. First, in future research using a similar design, it would be important to implement different data collection strategies in order to optimize the response rate of the targeted professional groups and, consequently, the size of the study sample. In relation to the explanatory hypotheses mentioned above, it would be necessary, among other things, to put greater emphasis on the length of the questionnaire, the collaboration of professional orders in soliciting their members, the format of the invitations (e.g., targeted e-mails; personalization of invitations) and the number of reminders.

Second, in relation to the limits associated with the use of a structured method based on predefined assessment models to collect the content of social representations, one can wonder what other social representations regarding assessment are held by guidance counselors, psychologists and psychoeducators. To answer this research question, it could be interesting to explore qualitative methods, such as semi-structured interviews and associative techniques (Lo Monaco et al., 2017). These methods could help identify other social representations regarding psychological assessment that extend beyond the principles of the IG and C/T models of assessment. More specifically, word association tasks, one of the main methods for collecting the content of social representations, could consist of asking professionals to identify words and phrases that come spontaneously to mind (Lo Monaco et al., 2017) regarding psychological assessment. Verbal associations could then be analysed through thematic groupings.

Third, while the present study focused on relations between individuals or groups and social representations, future research pursued within a sociodynamic approach should also focus on relations between social representations regarding psychological assessment to provide a comprehensive analysis of those cognitive elements. With this in mind, another example of research question that could be pursued is: Is adherence to C/T and IG assessment models associated with psychological assessment practices? Some of our other work attempted to answer that research question in a variable-centered approach by measuring social representations regarding psychological assessment using two scales (the degree of adherence to the C/T assessment approach and the degree of adherence to the IG assessment approach) (Dorceus et al., 2020). Among other things, regression analyses showed that social representations related to C/T and IG assessment approaches were associated with the frequency of psychological assessment for guidance counselors and psychologists beyond the contribution of contextual factors, such as professional affiliation and workplaces. Considering that both scales of adherence to C/T and IG assessment approaches used in the regression analyses showed low internal consistency (Cronbach's alpha below 0.70), it would be relevant to replicate these analyses with improved scales. This would allow us to examine the actual extent to which social representations can explain some psychological assessment practices beyond known contextual factors.

Lastly, it would also be useful to examine the association between social representations regarding psychological assessment and practices other than those examined within this research, which could be influenced by the preferred assessment approaches, such as criteria for selecting psychometric instruments.

In conclusion, despite its limitations, the present research was a first attempt at examining social representations related to psychological assessment within a person-centered approach. It was able to provide a better understanding of psychometric instruments users' preferred approaches to psychological assessment and the influence of social factors on the adoption of these approaches. The results also raise questions about the specifics of practitioners' training in assessment approaches according to their professional affiliation. Depending on the current state of university training and continuing education on this subject, it would be relevant to address assessment approaches (e.g., foundations, principles, effectiveness) and the various social representations regarding psychological assessment in order to encourage reflection among professionals in training.

Funding

This research was supported in part by doctoral scholarships granted by the Fonds de recherche du Québec–Société et culture (FRQSC), the Social Sciences and Humanities Research Council of Canada (SSHRC; N/réf. 767-2013-1779) and the Ordre des conseillers et conseillères d'orientation du Québec.

Disclosure of interest

The authors declare that they have no competing interest.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.erap.2022.100821.

References

Altet, M. (2000). L'analyse de pratiques : une démarche de formation professionnalisante [Analysis of practices: A professionalizing training approach]? *Recherche et formation*, *35*, 25–41. http://ife.ens-lyon.fr/publications/edition-electronique/recherche-et-formation/RR035-03.pdf

Altet, M. (2002). Une démarche de recherche sur la pratique enseignante : l'analyse plurielle [A research approach on teaching practice: Plural analysis]. *Revue française de pédagogie*, *138*(1), 85–93. https://doi.org/10.3406/rfp.2002.2866

Aschieri, F., De Saeger, H., & Durosini, I. (2015). L'évaluation thérapeutique et collaborative : preuves empiriques [Therapeutic and collaborative assessment: Empirical evidence]. *Pratiques psychologiques*, *21*(4), 307–317. https://doi.org/10.1016/j.prps.2015.09.005

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, R. J., & Swerdlik, M. E. (2010). *Psychological testing and assessment: An introduction to tests and measurement* (7th ed.). New York, NY: McGraw-Hill.

Cook, J. R., Hausman, E. M., Jensen-Doss, A., & Hawley, K. M. (2017). Assessment practices of child clinicians. Results from a national survey. *Assessment*, *24*(2), 210–221. https://doi.org/10.1177/1073191115604353

Corkum, P., French, F., & Dorey, H. (2007). School psychology in Nova Scotia: A survey of current practices and preferred future roles. *Canadian Journal of School Psychology–Revue canadienne de psychologie scolaire*, *22*(1), 108–120. https://doi.org/10.1177/0829573507301121

Curry, K. T., & Hanson, W. E. (2010). National survey of psychologists' test feedback training, supervision, and practice: A mixed methods study. *Journal of Personality Assessment*, *92*(4), 327–336. https://doi.org/10.1080/00223891.2010.482006

Deaudelin, C., Desjardins, J., Dezutter, O., Thomas, L., Corriveau, A., Lavoie, J., Bousadra, F., & Hébert, M. (2007). L'évaluation formative en contexte de renouveau pédagogique au primaire: analyse de pratiques au service de la réussite [Formative assessment in the context of the curriculum reform at the elementary level: Analysis of practices to achieve success]. *Nouveaux cahiers de la recherche en éducation*, *10*(1), 27–45. https://doi.org/10.7202/1016856ar

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, mail and mixed-mode surveys: The tailored design method* (4th ed.). New York, NY: Wiley & Sons.

Dorceus, S., Le Corff, Y., & Yergeau, É. (2020). Facteurs associés aux pratiques d'évaluation psychométrique des conseillères et conseillers d'orientation et des psychologues québécois·es [Factors associated with psychometric assessment practices of Quebec guidance counsellors and psychologists]. *L'orientation scolaire et professionnelle*, *49*(1), 95–118. https://doi.org/10.4000/osp.11774

Dorceus, S., Le Corff, Y., Yergeau, É., Gingras, M., & Savard, R. (2014). Les pratiques des conseillers et conseillères d'orientation du Québec en matière d'évaluation psychométrique dans les écoles secondaires: motifs d'utilisation, critères de sélection, modalités d'évaluation, formation et respect des normes de pratique [Testing practices among Quebec's high school guidance counsellors: reasons for test use, test selection criteria, assessment modalities, training and testing standards compliance]. *L'orientation scolaire et professionnelle*, *43*(2), 143–170. https://doi.org/10.4000/osp.4337

Dorceus, S., Le Corff, Y., Yergeau, É., Savard, R., & Gingras, M. (2014). Les pratiques des conseillers d'orientation du Québec en matière d'évaluation psychométrique dans les écoles secondaires: dimensions évaluées, tests utilisés et exercice des activités réservées par le projet de loi 21 [Testing practices among Quebec's high school guidance counsellors: assessed characteristics, most commonly used tests and exercise of reserved acts under bill 21]. *L'orientation scolaire et professionnelle*, *43*(2), 171–193. https://doi.org/10.4000/osp.4354

Finn, S. E. (2007). *In our clients' shoes: Theory and techniques of therapeutic assessment*. Mahwah, NJ: Lawrence Erlbaum Associates.

Finn, S. E., Fischer, C. T., & Handler, L. (2012). *Collaborative/therapeutic assessment: A casebook and guide*. Hoboken, NJ: John Wiley & Sons.

Finn, S. E., & Tonsager, M. E. (1997). Information-gathering and therapeutic models of assessment: Complementary paradigms. *Psychological Assessment*, *9*(4), 374–385. https://doi.org/10.1037/1040-3590.9.4.374

Frackowiak, M., Fantini, F., & Aschieri, F. (2015). L'évaluation thérapeutique: description de quatre modèles [Therapeutic assessment: Description of four models]. *Pratiques psychologiques*, *21*(4), 319–330. https://doi.org/10.1016/j.prps.2015.09.006

Frankfurt, S., Frazier, P., Syed, M., & Jung, K. R. (2016). Using group-based trajectory and growth mixture modeling to identify classes of change trajectories. *Counseling Psychologist*, *44*(5), 622–660. https://doi.org/10.1177/0011000016658097

Guo, Y., Kopec, J. A., Cibere, J., Li, L. C., & Goldsmith, C. H. (2016). Population survey features and response rates: A randomized experiment. *American Journal of Public Health*, *106*(8), 1422–1426. https://doi.org/10.2105/AJPH.2016.303198

Hanson, W. E., & Poston, J. M. (2011). Building confidence in psychological assessment as a therapeutic intervention: An empirical based reply to Lilienfeld, Garb, and Wood (2011). *Psychological Assessment*, *23*(4), 1056–1062. https://doi.org/10.1037/a0025656

Harris, G. E., & Joy, R. M. (2010). Educational psychologists' perspectives on their professional practice in Newfoundland and Labrador. *Canadian Journal of School Psychology–Revue canadienne de psychologie scolaire*, *25*(2), 205–220. https://doi.org/10.1177/0829573510366726

Hogan, T. P. (2013). *Psychological testing: A practical introduction* (3rd ed.). Hoboken, NJ: John Wiley & Sons.

Jacobson, R. M., Hanson, W. E., & Zhou, H. (2015). Canadian psychologists' test feedback training and practice: A national survey. *Canadian Psychology–Psychology canadienne*, *56*(4), 394–404. https://doi.org/10.1037/cap0000037

Korchin, S. J., & Schuldberg, D. (1981). The future of clinical assessment. *American Psychologist*, *36*(10), 1147–1158.

Lavoie, C. (2018). Exploration of the social representations of eating disorders among social workers. *Papers on Social Representations*, *27*(1), 2, 2.1-2.24 [Dataset]. http://psr.iscte-iul.pt/index.php/PSR/article/view/459/407

Le Corff, Y., Yergeau, É., & Savard, R. (2011). Évaluation psychométrique : enquête sur les pratiques des conseillers d'orientation [Psychometric assessement: A survey on guidance counselors' practices]. *L'orientation*, *1*(1), 18–20. https://orientation.qc.ca/files/LOrientation-Vol1-No1-Aout-2011.pdf

Levy, P. S., & Lemeshow, S. (2013). *Sampling of populations: Methods and applications* (5th ed). Hoboken, NJ: John Wiley & Sons.

Lo Monaco, G., Piermattéo, A., Rateau, P., & Tavani, J. L. (2017). Methods for studying the structure of social representations: A critical review and agenda for future research. *Journal for the Theory of Social Behaviour*, *47*(3), 306–331. https://doi.org/10.1111/jtsb.12124

Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Moreland, K. L., Dies, R. R., Eisman, E. J., Kubiszyn, T. W., & Reed, G. M. (2001). Psychological testing and psychological assessment: A review of evidence and issues. *American Psychologist*, *56*(2), 128–165. https://doi.org/10.1037/0003-066X.56.2.128

Miller, L. A., & Lovler, R. L. (2016). *Foundations of psychological testing: A practical approach* (5th ed.). Thousand Oaks, CA: SAGE Publications.

Monroe, M. C., & Adams, D. C. (2012). Increasing response rates to web-based surveys. *Journal of Extension*, *50*(6), 6–7.

Morris, S. B., Daisley, R. L., Wheeler, M., & Boyer, P. (2015). A meta-analysis of the relationship between individual assessments and job performance. *Journal of Applied Psychology*, *100*(1), 5–20. https://doi.org/10.1037/a0036938

Muthen, L. K., & Muthen, B. O. (2017). *Mplus User's Guide* (8th ed.). Los Angeles, CA: Author. https://www.statmodel.com/download/usersguide/MplusUserGuideVer_8.pdf

Novara, C., Serio, C., & Lavanco, G. (2017). Teachers' representations on adoptive families and educational practices: New challenges in teachers' preparation. *Adoption Quarterly*, *20*(2), 135–154. https://doi.org/10.1080/10926755.2016.1201707

Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling*, *14*(4), 535–569. https://doi.org/10.1080/10705510701575396

Ordre des conseillers et conseillères d'orientation du Québec. (2010). *Assessment guide for career and guidance counselling*. https://orientation.qc.ca/files/Guide-dévaluation-en-orientation-version-anglaise.pdf

Ordre des conseillers et conseillères d'orientation du Québec. (2017). *Rapport annuel 2016-2017 [Annual report 2016-2017]*. https://www.orientation.qc.ca/files/Rapport_OCCOQ_2017.pdf

Ordre des psychoéducateurs et psychoéducatrices du Québec. (2014). *L'évaluation psychoéducative de la personne en difficulté d'adaptation: lignes directrices [Psychoeducational assessment of an individual with adjustment difficulties: Guidelines]*. [https://www.ordrepsed.qc.ca/~/media/pdf/Publication/Evaluation_psychoeducative_2014.ashx?la=fr].

Ordre des psychoéducateurs et psychoéducatrices du Québec. (2017). *Rapport annuel 2016-2017 [Annual report 2016-2017]*. [http://www.ordrepsed.qc.ca/~/media/pdf/Publication/Rapport%20annuel_2016-2017.ashx?la=fr].

Ordre des psychologues du Québec. (2011). *Le référentiel d'activité professionnelle lié à l'exercice de la profession de psychologue au Québec*. [Professional activity framework for psychologists' practices in Quebec]. https://www.ordrepsy.qc.ca/documents/26707/63191/R%C3%A9f%C3%A9rentiel+d%27activit%C3%A9+professionnelle+li%C3%A9+%C3%A0+l%27exercice+de+la+profession+de+psychologue+au+Qu%C3%A9bec/af9ce31c-b8dd-4cad-8f4a-91ad585f451d

Ordre des psychologues du Québec (2017). (2017). *Rapport annuel 2016-2017 [Annual report 2016-2017]*. https://www.ordrepsy.qc.ca/documents/26707/135241/Rapport+annuel+2016-2017/dd6ece39-50e9-46e5-8921-1c4b568b10fe

Paul, V., & Perriault, J. (2004). Introduction. Pratiques d'information et de communication: l'empreinte du numérique [Information and communication practices: The digital footprint]. *La Revue Hermès*, *2*(39), 9–16. http://www.cairn.info/revue-hermes-la-revue-2004-2-page-9.htm

Poston, J. M., & Hanson, W. E. (2010). Meta-analysis of psychological assessment as a therapeutic intervention. *Psychological Assessment*, *22*(2), 203–212. https://doi.org/10.1037/a0018679

Rateau, P., & Lo Monaco, G. (2013). La théorie des représentations sociales: orientations conceptuelles, champs d'applications et méthodes [Social representation theory: Conceptual orientations, fields of application and methods]. *Revista CES Psicologia*, *6*(1), 1–21. http://www.scielo.org.co/pdf/cesp/v6n1/v6n1a02.pdf

Rateau, P., Moliner, P., Guimelli, C., & Abric, J.-C. (2012). Social representation theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (2) (pp. 477–498). London, England: SAGE Publications. https://doi.org/10.4135/9781446249222.n50

Sackett, P. R., Borneman, M. J., & Connelly, B. S. (2008). High stakes testing in higher education and employment: Appraising the evidence for validity and fairness. *American Psychologist*, *63*(4), 215–227. https://doi.org/10.1037/0003-066X.63.4.215

Sauermann, H., & Roach, M. (2012). Increasing web survey response rates in innovation research: An experimental study of static and dynamic contact design features. *Research Policy*, *42*(1), 273–286. https://doi.org/10.1016/j.respol.2012.05.003

Schmidt, F. L., Oh, I.-S., & Schaffer, J. A. (2016). *The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 100 years of research findings*. Fox School of Business Research Paper. http://home.ubalt.edu/tmitch/645/session%204/Schmidt%20&%20Oh%20MKUP%20validity%20and%20util%20100%20yrs%20of%20research%20Wk%20PPR%202016.pdf

Smith, J. D., & Finn, S. E. (2014). Integration and therapeutic presentation of multimethod assessment results: Empirically supported guiding framework and case example. In C. J. Hopwood, & R. F. Bornstein (Eds.), *Multimethod clinical assessment of personality and psychopathology* (pp. 403–425). New York, NY: Guilford Press.

Tallent, N. (1992). *The practice of psychological assessment*. Englewood Cliffs, NJ: Prentice Hall.

Tharinger, D. J., Finn, S. E., Gentry, L., Hamilton, A., Fowler, J., Matson, M., Krumholz, L., & Walkowiak, J. (2009). Therapeutic assessment with children: A pilot study of treatment acceptability and outcome. *Journal of Personality Assessment*, *91*(3), 238–244. https://doi.org/10.1080/00223890902794275

Tharinger, D. J., Krumholz, L., Austin, C., & Matson, M. (2011). The development and model of therapeutic assessment with children: Application to school-based assessment. In M. A. Bray, & T. J. Kehle (Eds.), *Oxford University Press handbook of school psychology* (pp. 224–259). New York, NY: Oxford University Press.

Urbina, S. (2014). *Essentials of psychological testing* (2nd ed.). Hoboken, NJ: John Wiley & Sons.

Wright, C. V., Beattie, S. G., Galper, D. I., Church, A. S., Bufka, L. F., Brabender, V. M., & Smith, B. L. (2017). Assessment practices of professional psychologists: Results of a national survey. *Professional Psychology: Research and Practice*, *48*(2), 73–78. https://doi.org/10.1037/pro0000086

Yergeau, É., Le Corff, Y., Dorceus, S., Savard, R., & Gingras, M. (2012). Enquête sur les pratiques d'évaluation psychométrique: fréquence d'utilisation des tests et pratique des activités réservées par la Loi 21 [Psychometric assessment practices: frequency of test use and exercise of reserved acts under Bill 21]. *L'orientation*, *1*(2), 21–22. https://orientation.qc.ca/files/Orientation-Vol1-No2-Janvier2012.pdf