

Teacher-youth inter-informant agreement on the Strengths and Difficulties Questionnaire (SDQ) in a community sample of refugee and immigrant adolescents in Montreal

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Abstract

Early detection and treatment of psychological problems amongst refugee and immigrant youth is crucial to improve their developmental outcomes and their social integration. Multiple informants approach is a standard practice in detecting psychological problems. Based on its extensive empirical use, this approach is recommended in order to avoid bias or misinterpretation during the assessment of the youth mental health needs. However, very few studies have investigated the inter-informant agreement between teachers and youth in a multiethnic context. The current study explores teacher-youth inter-informant agreement in a culturally heterogeneous sample of refugee and immigrant adolescents from three high schools in Montreal. The *Strength and Difficulties Questionnaire (SDQ)* was administered to 113 recently arrived migrant adolescents (female, $n = 55$; male, $n = 58$) to assess their own emotional and behavioural symptoms. The SDQ was also administered to their teachers ($n = 7$) so that a comparison between self- and teacher reports could be made. Teacher-youth agreement was significant for the Emotional symptoms subscale, but this inter-informant agreement was significant for males only. These results underscore the need to raise school personnel awareness about potential undetected emotional problems in newly arrived refugee and immigrant female adolescents.

Résumé

L'identification et le traitement précoces des problèmes de santé mentale chez les jeunes immigrants et réfugiés est cruciale pour améliorer leur qualité de vie et leur intégration sociale. L'usage d'informateurs multiples est une pratique répandue pour détecter ce type de problèmes. Validée scientifiquement, cette approche est recommandée pour éviter les biais et les mésinterprétations lors de l'évaluation des besoins en santé mentale des adolescents. Cependant, très peu d'études ont investigué l'accord entre enseignants et adolescents en contexte multiethnique. La présente étude décrit l'accord enseignant-adolescents dans un échantillon culturellement hétérogène d'adolescents immigrants et réfugiés provenant de trois écoles secondaires de Montréal. Le questionnaire des Forces et difficultés (SDQ) a été administré à 113 élèves récemment immigrés (filles, $n = 55$; garçons, $n = 58$) pour qu'ils évaluent leurs propres symptômes émotionnels et comportementaux. Le SDQ a aussi été rempli par leur enseignant ($n = 7$) afin de mesurer le niveau d'accord entre leurs réponses et celles de leurs élèves. L'accord enseignant-adolescent était significatif pour l'échelle des symptômes émotionnels, mais uniquement pour les étudiants mâles. Ces résultats soulignent la nécessité de sensibiliser le personnel scolaire à porter une attention particulière aux problèmes émotionnels chez les étudiantes ayant récemment immigré, lesquels semblent plus difficilement identifiables.

Keywords: Strengths and Difficulties Questionnaire (SDQ), multiple informants, immigrant and refugee adolescents, teacher-child inter-informant agreement, gender differences.

Introduction

Numerous studies on youth mental health have emphasized the importance of early detection and intervention which may prevent the development or persistence of disorders (Hackett et al., 2010; Stone, Otten, Engels, Vermulst, & Janssens, 2010). Prevalence studies have indicated that between 3% and 18% of children and adolescents in the world suffer from one or many mental health problems amongst a wide spectrum of mental health problems affecting young populations (Bourdon, Goodman, Rae, Simpson, & Koretz, 2005; World Health Organization, 2005). This spectrum ranges from internalizing or emotional problems, such as depression, low self-esteem, and anxiety to externalizing or behavioural problems, such as verbal and physical aggression, hyperactivity, and conduct problems. Recent findings have shown that these problems are especially common in children and adolescents living in different situations of vulnerability (e.g., living in poverty, witnessing violence, being victims of abuse, etc.) (Bielsa, Braddick, Jané-Llopis, Jenkins, & Puras, 2010; Marquis, & Flynn, 2009). Hence, research on refugee and immigrant youth seem particularly important since they may have been exposed to traumatic events and may live in unstable environments. In combination, they may be at risk to suffer from or to develop psychological problems (Gurvitch, 2005; Rousseau & Drapeau, 2004).

Unfortunately, the detection of internalizing and externalizing symptoms in youth poses many challenges, particularly in ethnically diverse populations. Relevant to the North American context, several challenges are identified. Firstly, the limited access to mental health care and the experiences of stigma and discrimination associated with its use cause refugee and immigrant populations to persistently under-use mental health services (Anstiss, Ziaian, Procter, Warland, & Baghurst, 2009; Desmeules et al., 2004). Secondly, ethnic minority families may be less inclined to recognize these symptoms due to their different cultural references and expectations about what constitutes normative versus atypical or deviant youth behaviour (Fung & Lau, 2010; Rousseau & Drapeau, 1998). In fact, recent research found that internalizing problems are underreported for Asian and Latino immigrant adolescents compared to their peers (Gudiño, Lau, Yeh, McCabe, & Hough, 2009; Lau et al., 2004). These researchers suggest that internalizing symptoms may be less distressing to immigrant parents who may, because of their dominant cultural values, interpret their manifestation as appropriate behaviour or signs of maturity.

In this context, the information provided by other informants becomes highly valuable for detection and early intervention amongst refugee and immigrant adolescents; for example, a multi-informant assessment is of value especially, because the manifestation of emotional and behavioural problems may vary across settings (Collishaw, Goodman, Ford, Rabe-Hesketh, & Pickles, 2009; Lappalainen, Savolainen, Sointu, & Epstein, 2014; Goodman, Ford, Richards, Gatward, & Meltzer, 2000;). Teachers and special educators often represent the first and principal

point of contact between refugee and immigrant youth and the host society. As such, they are targeted as central informants in the identification of mental health problems (Hackett et al., 2010).

Consequently, attention to efficient and readily available screening measures has recently increased in school settings (Stone et al., 2010). One of the screening instruments most widely used, and for which the most multiethnic findings have been published, is the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997; Goodman, Meltzer, & Bailey, 1998). Translated into more than 60 languages, it is also particularly valuable in ethnically and linguistically diverse settings (Marquis & Flynn, 2009). As a dimensional instrument, the SDQ enables users to compare adolescents' scale scores with normative samples for relevant cultural groups, and separately for parent, teacher, and self-ratings.

Several studies have validated the cross-informant agreement of the SDQ scores (Goodman et al., 2000; Muris, Meesters, & Van den Berg, 2003). The teacher-youth agreement, although usually reported as lower than parent-youth agreement, has been found to be of equal predictive value (Collishaw, Goodman, Ford, Rabe-Hesketh, & Pickles, 2009; Goodman et al., 2000). However, while the parent and teacher assessments are considered interchangeable, many authors pointed out that the subjective experience of the youth should be given added importance in order to reduce bias in the diagnosis and to obtain a more precise understanding of their problems (Rousseau & Drapeau, 1998; Stone et al., 2010). When assessing internalizing symptoms using SDQ, self-reports are especially important, because they have been found to be more accurate than the parent or teacher reports on the emotional problems subscale (Prior, Virasinghe, & Smart, 2005; Wille, Bettge, Wittchen, Ravens-Sieberer, & the BELLA study group, 2008).

As previously discussed, the validity of the immigrant parent reports may be influenced by different cultural views in relation to what constitutes normative behaviour. Similarly, numerous cultural considerations appear relevant to the study of the teacher-youth agreement and may limit the accuracy of the teacher reports (Achenbach et al., 2008). Researchers have documented many inter-informant disagreements, both between the teachers and youth and between the parents and youth. For example, in community samples, refugee and immigrant adolescents tend to report a higher level of symptoms than do their parents or teachers (Montgomery, 2008; Prior et al., 2005; Rousseau & Drapeau, 1998). In addition, recent findings show that inter-informant agreement is consistently poorer for internalizing symptoms than for externalizing symptoms (Alfons, Crijnen, Bengi-Arslan, & Verhulst, 2000; Collishaw et al., 2009). Goodman et al. (2000) have provided some explanations for this substantial variation between the rates of reported symptoms by highlighting the fact that when youth suffer, both from behavioural and emotional problems (e.g., a mild depressive conduct disorder), the specific adult-informant prediction is more often a conduct than an emotional disorder.

Furthermore, emotional problems are most likely to be missed by adult informants in female youth, even though females usually report more symptoms (especially internalizing symptoms) than their male counterparts (Collishaw et al., 2009; Goodman et al., 1998; Prior et al., 2005; Wille et al., 2008). In refugee and immigrant populations, this poor cross-informant agreement has been observed mainly between parents and youth. In Quebec, more specifically, Rousseau and Drapeau (1998) found weaker parent-daughter agreements than parent-son agreements in a sample of Cambodian parents and adolescents. According to the authors, the different levels of acculturation to North-American norms (with regards to the expression of affect) between parents and youth may explain this disagreement. They also suggested that the imperatives of social acceptability in immigrant populations may prevent parents from reporting specific psychological symptoms in their daughter(s). These findings suggest that similar cultural gaps could also impact the inter-informant agreement between teachers and refugee and immigrant youth, but, to date, very little research has addressed this issue, especially in the context of Quebec. Hence, the current study investigated the inter-informant agreement for emotional and behavioural symptoms, as measured by the SDQ on the teacher and self-reports. The teacher-child inter-informant agreement is presented separately for males and females to address potential gender effects. Two focal questions that guided this investigation were: (a) Is there a correlation between youth and teacher report for emotional and behavioural symptoms as measured by the SDQ? and (b) Does the teacher-youth inter-informant agreement vary as a function of gender?

Method

This section describes the methods chosen for sampling and data collection. Details about the participants' characteristics and the properties of the SDQ are also provided.

Participants and procedure

Participants were drawn from a larger longitudinal intervention study involving a heterogeneous sample of recently arrived refugees and immigrant adolescents attending multiethnic schools in Montreal. For the current study, a total of 113 students and their teachers ($n = 7$) from three multiethnic high schools were included. Teachers filled out the teacher version of the SDQ, while students filled out the self-report version. Of all the students eligible for the study (i.e., attending the class of one of the seven teachers participating to the study), 91% provided consent¹. For the current study, the student enrolment for the three schools was 49% female ($n = 55$) and 51% male ($n = 58$).

In order to protect the anonymity of students, their names were replaced with a code. Teachers received \$100 for their participation, while adolescents did not receive monetary compensation for their participation. All procedures were approved by the Centre de Santé et de Services Sociaux (CSSS) de la Montagne ethics review committee. Data collection occurred during the 2008-2009 school year, and the data were collected both at the pre- and post-assessment of the intervention. However, to control for potential intervention effects, data collected at the post-test was excluded for the current study. Moreover, only adolescent data matched with teacher data was considered in this study, because the primary aim was to measure teacher-child agreement.

Adolescents completed the SDQ questionnaire in class during a regular class period, and the SDQ questionnaire was available in different languages (a version in their mother tongue was made available upon request); adolescents responded in French ($n = 84$), English ($n = 8$), and Spanish ($n = 21$). Demographic characteristics are presented in Table 1. The sample included 113 immigrant and refugee adolescents from 35 different countries attending three multiethnic high schools in Montreal, 15.7% of whom were refugees. Their mean age was 15.6 ($SD = 1.3$, Range = 12-18), and their average age at the time of immigration to Canada was 14.2 ($SD = 1.5$, Range, 10-17).

Table 1: Demographic Characteristics

	Percent
Origin	
Asia	50
Latin America	32
Africa	7
Europe	5.8
North America	3.3
Missing	1.9
Status	
Permanent Resident	55.4
Refugee	15.7
Citizen	0.8
Waiting for Status	1.7
Don't Know Status	13.2
Missing	13.2

Strengths and Difficulties Questionnaire (SDQ)

The Strengths and Difficulties Questionnaire (Goodman, 1997) is a behavioural screening questionnaire designed to describe psychological attributes in school-age youth. A primary aim of the SDQ is to identify children at high risk of mental health disorders and who warrant further assessment. The SDQ employs a dimensional approach whereby each of its five subscales designated as *Conduct Problems*, *Emotional Symptoms*, *Hyperactivity*, *Peer Relationships*,

and *Prosocial Behaviour* make up five independent dimensions of child behaviour. Table 2 indicates how the first four subscales are divided into internalizing and externalizing symptoms (the problem items).

Table 2: SDQ's subscales and their associated problem items

Subscales	Internalizing Symptoms (abbreviated)	Externalizing Symptoms (abbreviated)
Hyperactivity		Distractible, Restless, Fidgety, Persistent, Reflective
Emotional Problems	Worries, Unhappy, Clingy, Fears, Somatic	
Conduct Problems Peer Problems		Lies, Tempers, Obedient, Fights, Steals Popular, Best with Adults, Solitary, Bullied, Good Friends

Ratings on a 25 item Likert-type scale are summed to yield quantitative scale scores. The negative and positive items are rated on a 0-2 rating scale (ranging from “not true” to “certainly true”) for problem items and prosocial items are reverse coded. The scores on each scale and subscales are classified as normal, borderline, or abnormal according to the following ranges: Total Difficulties Score: normal (0-15), borderline (16-19), abnormal (20-40) ; Emotional Symptoms and the Hyperactivity Scores : normal (0-5), borderline (6), abnormal (7-10); Conduct Problem Score: normal (0-3), borderline (4), abnormal (7-10); Peer problems Score: normal (0-3), borderline (4-5), abnormal (6-10); Prosocial Behaviour Score: normal (6-10), borderline (5), abnormal (0-4).

Although the SDQ is brief, the reliability and validity of its psychometric properties have been supported by various studies (Achenbach et al., 2008, Du, Kou, & Coghill, 2008, Goodman et al., 1998). In addition, Bourdon et al. (2005) report results that indicated good acceptability (high response rates) and internal consistency. In this study, the reliability of the SDQ was assessed by means of Cronbach's alpha. For the teacher and self-reports the Total Difficulties scale and Emotional Symptoms subscale ranged from acceptable to good. The internal consistencies were respectively as follows: Total Difficulties scale Cronbach's Alpha = .86 (teacher report), Cronbach's Alpha = .64 (self-report); Emotional Symptoms subscale Cronbach's Alpha = .75 (teacher report), Cronbach's Alpha = .60 (self-report). These reliability coefficients are in line with the mean Cronbach found in Goodman's (2001) studies using the SDQ. In his community sample ($N = 10,438$) of 5-15 year-olds, which also included the parent and teacher reports, Goodman found a mean Cronbach's Alpha = .73. More specifically, the internal consistencies for the Emotional symptoms subscale of the teacher and self-versions were Cronbach's Alpha = .66 and Cronbach's Alpha = .78.

Results

In order to answer the research questions, data analysis was carried out using the chi-squared goodness of fit Test and the Pearson Correlation. The former enabled an overview of gender effects as regards to the difficulties reported by males, by females, and by their teachers on the four first subscales (see Table 2). The latter allowed an analysis of gender differences as regards to the inter-informant agreement. The results will be discussed in the following section.

Comparing the SDQ Scores with Normative Data from the Literature

Gender differences on internalizing and externalizing symptoms for both informants were assessed using the Pearson Chi-Squared test (see table 3). Percentages are presented in terms of the proportions of males and females in the normal, borderline, and abnormal categories in Table 3. The self- and the teacher reports indicated that males were significantly higher on the Conduct Problems subscale in comparison to females (self-report: $\phi = .35$; Teacher-reports: $\phi = .29$). Teachers also rated males significantly higher on the Hyperactivity subscale ($\phi = .32$), but a similar

gender difference was not found in the self-report. No significant difference was found between males and females on the Peer Problem subscale.

Furthermore, females rated themselves significantly higher on the Emotional Symptoms subscale ($\phi = .36$), while no significant difference was found in the teacher assessments between males and females (see Table 3). These findings align to those found elsewhere in the literature comparing self- and parent reports (Prior et al., 2005; Rousseau & Drapeau, 1998). In addition, based on the mean level of reported symptoms (see Table 4), one can observe that teachers identified only slightly more internalizing symptoms in females than males, even though females scored significantly higher on the self-report Emotional Symptoms subscale than did males. Similar discrepancies were also found in studies with comparable populations (Collishaw et al., 2009; Wille et al., 2008).

Table 3: Pearson chi-squared goodness of fit test: percentage of male and females who fell into the normal, borderline, and abnormal categories for each subscale based on self-report and teacher reports.

	Male (<i>n</i> = 58)			Female (<i>n</i> = 55)			χ^2
	Normal	Borderline	Abnormal	Normal	Borderline	Abnormal	
Total Difficulties Score							
Teacher Report	66.8	33.2	0.0	83.9	16.2	0.0	7.67
Self-Report	43.7	56.3	0.0	58.2	41.8	0.0	1.65
Hyperactivity							
Teacher Report	41.2	45.2	13.7	69.7	28.7	1.8	11.25**
Self-Report	45.5	52.7	1.8	49.2	50.8	0.0	5.62
Emotional Symptoms							
Teacher Report	74.5	25.5	0.0	67.8	30.4	1.8	2.53
Self-Report	56.3	41.8	1.8	42.1	52.7	5.3	14.25**
Conduct Problems							
Teacher Report	74.5	25.6	0.0	94.7	5.4	0.0	9.27*
Self-Report	52.7	47.2	0.0	84.3	15.7	0.0	14.04**
Peer Problems							
Teacher Report	68.6	31.4	0.0	62.4	37.6	0.0	1.35
Self-Report	32.7	67.3	0.0	49.1	50.9	0.0	1.86

Note: * denotes $p < .05$, ** denotes $p < .01$

Table 4: Mean (*SD*) Self-Reported and Teacher Reported Psychological Symptoms by Gender

	Male (<i>n</i> = 58)		Female (<i>n</i> = 55)	
	Mean Self-Report (<i>SD</i>)	Mean Teacher Report (<i>SD</i>)	Mean Self-Report (<i>SD</i>)	Mean Teacher Report (<i>SD</i>)
Total Difficulties	11.22 (4.76)	7.98 (6.24)	9.98 (4.27)	6.04 (4.98)
Hyperactivity	3.00 (1.93)	3.33 (2.95)	2.7 (1.63)	1.68 (1.93)
Emotional Symptoms	2.31 (1.87)	1.65 (2.09)	3.16 (2.06)	1.88 (2.13)
Conduct Problems	2.53 (1.76)	1.35 (1.84)	1.61 (1.26)	.63 (.96)
Peer Problems	3.38 (1.69)	1.65 (1.67)	2.51 (1.65)	1.85 (1.90)

Inter-Informant Agreement and Gender Differences

The scores from the teacher SDQ reports were correlated (Pearson correlation) with the self-reports' scores independently for males and females. The correlations are presented in Table 5. The inter-informant agreement is only significant for two subscales: the Emotional symptoms subscale and the Prosocial subscale. However, the latter was ignored as the reliability was unacceptable for self-reports. Moreover, when segregated by sex, only the teacher and self-reports completed by males were significantly correlated to the emotional symptoms.

Table 5: Pearson correlation (*r*) of inter-informant agreement (Teacher vs. Self-Report) on all SDQ subscales

	Total (<i>N</i> = 113)	Male (<i>n</i> = 58)	Female (<i>n</i> = 55)
Total Difficulties	.17	.25	-.14
Hyperactivity	.13	.08	.18
Emotional Symptoms	.21*	.38*	.05
Conduct Problems	.10	.04	-.04
Peer Problems	.11	.14	.12
Prosocial Behaviour	.20*	.30*	.28

Note: * denotes $p < .05$

Discussion

The data shows that there is a relatively poor inter-informant agreement between teachers and refugee and immigrant youth, especially on the behavioral problems subscales. Such results contrast with other research findings on community samples as a weaker agreement is usually found on the Emotional symptoms subscale compared to other subscales (Collishaw et al., 2009; Goodman et al., 2000). Nevertheless, the inter-informant agreement is only significant between the internalizing symptoms reported by males and teachers. Moreover, the score on the Emotional Symptoms subscale predicts the total difficulties score for self-reports, but not for teacher reports, suggesting that immigrant and refugee adolescents may cover up problems, which in turn may go unnoticed by their teachers. These results confirm the need to consider the refugee and immigrant adolescents' perspective in the assessment of their psychological attributes, which has been highlighted by other authors (Rousseau & Drapeau, 1998; Stone et al., 2010).

The use of multiple informants may be particularly crucial in multiethnic settings where youth may have more difficulty communicating in a foreign language and where cultural differences between the teachers and their students may prevent early and reliable detection of their psychological problems. Teachers' use of effective strategies for improving communication with their refugee and immigrant students may represent an important step to obtain an accurate view of their problems so that professional help may be sought when required (Fung & Lau, 2010).

Our analysis of reported psychological problems in immigrant and refugee adolescents also provides important information on gender-specific issues. In our sample, males and females reported different levels of symptoms, and the inter-informant agreement appears to be related to gender with teachers recognizing better males' than females' emotional symptoms. Like previous research findings on inter-informant agreement between Asian parents and adolescents (Rousseau & Drapeau, 1998), the observed gap between the internalizing symptoms reported by females and by the adult-informants is quite noteworthy. These results have important implications: Emotional distress in female refugee or immigrant youth may be misinterpreted as issues with conduct or behaviour, or the emotional distress may be altogether missed by their teachers and by their parents (Goodman et al., 2000). In order to avoid having internalizing problems unrecognized in school settings, teachers, who naturally tend to focus on conduct rather than emotional problems, should be aware of the potential co-occurrence of externalizing

and internalizing symptoms. This awareness may help teachers pay attention to potential comorbid emotional problems when they notice conduct problems in their students (Goodman et al., 2000; Wille et al., 2008). Moreover, it may be important to sensitize teachers in multiethnic schools to the increased difficulty of identifying internalizing symptoms in their female students in comparison to their male students. A better understanding around awareness of female students' emotional status could contribute to reducing the amount of untreated psychological problems and help to improve their developmental outcomes and well-being (Lappalainen, et al., 2014).

Limitations

Although the SDQ has been validated cross-culturally, there may still be some limitations associated with using traditional Western psychological concepts to assess mental health in other cultural groups (Bracken, Giller, & Summerfield, 1995). Adolescents may also have underreported problems, because they may not have been comfortable admitting behaviours and emotions, which are interpreted as deviant in their culture or ethnic group. In addition, the immigration process may have had inhibitory effects on the adolescents from our sample (language adaptation, coping with the new environment, etc.). Furthermore, the inter-informant differences found in our study may reflect reporter bias or misinterpretation by teachers, who had only known their students for a few months at the time of data collection. A related possibility is that the differences were associated with the distinct cultural backgrounds between teachers and youth (Stone et al., 2010). A final limitation to this study is the relatively small sample size, which may have affected the validity of the results.

Conclusion

Although there is growing awareness of mental health problems among youth in community and school settings, a considerable discrepancy has been found between the prevalence rates and the percentage of these children referred to mental health services (Stone et al., 2010). Different elements have been put forward to explain this phenomenon. In this study, the concern was on refugee and immigrant students whose access to mental health services may be more limited than their peers due to the fact that refugee and immigrant parents tend to underreport (or do not recognize) psychological symptoms in their children (Anstiss et al., 2004; Gudiño et al., 2009; Lau et al., 2004; Rousseau & Drapeau, 1998). This study shows that it may also be difficult to recognize mental health problems amongst refugee and immigrant youth in school settings, even when using an assessment tool, such as the SDQ. Indeed, the low inter-informant agreement found in our study between the teacher and self-reports on the SDQ accentuates the importance of using a multiple informants approach when assessing mental health needs in youth. Integrating the adolescents' perspective seems particularly important in screening studies carried out in multiethnic settings where adolescents may have more difficulty communicating in a foreign language with their teachers and where cultural differences between the teachers and their students may increase bias in their reports.

Moreover, the observed association between female gender and low inter-informant agreement for internalizing symptoms, as measured by the emotional problems subscale, calls for increased attention to emotional distress in refugee and immigrant females. Such findings also emphasize the need to investigate why teachers may not recognize internalizing symptoms in females in particular. Future research should use an *emic* approach whereby researchers would aim at understanding the causes of such inter-informant disagreement through qualitative methods (Achenbach et al., 2008). This type of investigation could focus on particular refugee and immigrant adolescents' characteristics and/or on specific situations (i.e., recent immigration cases). In doing so, researchers could also compare emotional and behavioural symptoms in immigrant and refugee adolescents at different stages of the migration process to identify if patterns change with time and acculturation. It would be especially interesting to uncover factors that could advance our overall understanding of the interplay between biological and psychological factors (e.g., gender effect, temperament differences, etc.) and environmental factors (e.g., having to adapt to a host country, coping with the migrant experience, cultural idioms of distress, etc.).

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Notes

¹ Adolescents and their parents signed consent forms, which described their participation, objectives of the study, and ensuring confidentiality.