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To cite this article: Agustín Ernesto Martínez-González, Tíscar Rodríguez-Jiménez, José Antonio Piqueras, Pablo Vera- Villarroel & Jorge Torres-Ortega (2018): Emotional and behavioural symptoms, risk behaviours and academic success in Chilean Mapuche and non-Mapuche adolescents, *Ethnicity & Health*, DOI: [10.1080/13557858.2018.1427702](https://doi.org/10.1080/13557858.2018.1427702)

To link to this article: <https://doi.org/10.1080/13557858.2018.1427702>



Published online: 28 Feb 2018.



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Emotional and behavioural symptoms, risk behaviours and academic success in Chilean Mapuche and non-Mapuche adolescents

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ABSTRACT

Introduction: There is controversy over the real existence of differences in mental health and academic performance between the Mapuche ethnic minority male adolescents and the male adolescents not belonging to this ethnicity in Chile.

Objective: In consequence, the aim of this study was to investigate the differences in emotional and behavioural symptoms, risky behaviours and academic success on the Chilean Mapuche and non-Mapuche adolescents.

Design: The sample consisted of 233 adolescents of which 119 were Mapuche adolescents and 114 were non-Mapuche adolescents.

Results: The results showed that the Mapuche adolescents do not have more anxiety problems and depression than the non-Mapuche adolescents. Furthermore, the Mapuche adolescents present less drug consumption and behavioural problems. Moreover, there were no differences in academic performance.

Conclusions: This study provides social interest data of the adolescents' mental health, which can be useful for the country's socio-sanitary and political decisions. Future studies should investigate these and other variables related to the mental health of minorities in greater depth.

ARTICLE HISTORY

Received 19 October 2016



Accepted 26 December 2017

KEYWORDS

Mapuche; emotional symptoms; behavioural symptoms; risk behaviours; academic success; adolescence

Introduction

Different international health organisations indicate the necessity to take into consideration the issues related to culture, such as racial, ethnic and identity or sexual orientation features, among others (e.g. APA 2013; OPS 2008; UNICEF 2007). For example, the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) notes the necessity to study the differences that may exist between ethnic groups and the general population to determine the prevalence of the psychological symptoms in a specific ethnic group (APA 2013). Hence, studying the cultural and social factors is an important issue for the provision of mental health services for a specific ethnic group (Kohn 2011).

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More specifically, this frame of reference has been given the name of studies of mental health of Indigenous Peoples (for example; Orzuza 2014).

In Latin America, there is a lack of transcultural studies to investigate the differences among various peoples in relation to certain symptoms and psychological disorders (Razzouk, Nogueira, and Mari 2011). Certain studies indicate there are maladjustments between the diagnostic criteria of the main diagnostic manuals, like the DSM, and the local phenomenology of mental illnesses in a specific cultural context or ethnic group (Lewis-Fernández et al. 2010). Other studies report that the indigenous people are vulnerable and are associated to a process of victimisation (Jaramillo 2011). Therefore, the participation of local indigenous communities to promote multicultural health is important (Torri 2012).

One of the oldest ethnic groups is the Mapuche Indians ('people of the land' or 'natives peoples'). At the present time, the Mapuche Indians mainly live in Chile (Araucanía Region, Santiago Metropolitan Region and in less amount in the BíoBío, Los Lagos and Los Ríos regions) and in some areas of Argentina. The Araucanía Region is where the adolescents identify themselves more as Mapuche (UNICEF 2007). 74% of young Mapuches have a strong rooting to their people (UNICEF 2007). The Mapuches have traditionally been dedicated to hunting, harvesting and textile goods. The traditional communities are bilingual, namely, they speak Spanish and keep using their traditional language 'Mapudungun'. Their religion and traditions are passed on orally (Foerster 1993).

Through the decades the Mapuche people have had a decrease in their territories (Garín and Ortega 2007). Historically, the Mapuches have maintained an attitude of defence, resistance and conflict motivated by the decline of their territories (Aylwin 2000; Garín and Ortega 2007; Richards 2014). However, the Mapuche Indians are the most numerous and politically involved in modern Chile. Their ongoing struggles in the defence of their rights have led them to greater national and international visibility (Bello 2014; Crow 2013, 2017; Zavala 2016), which highlights the need for important and real political innovations (Doran 2017).

The epidemiological data indicates a sharp 30% decline in the Mapuche people in the last decade (Encuesta Casen 2011). Nevertheless, it seems that these figures are not entirely objective as Chile has had difficulties in taking a census of the population (Bravo et al. 2013). Due to the fact that the majority of Mapuche families live in villages or remote towns far from the school centres, most Mapuche adolescents are internees in these centres in order to gain access to a formal education (Silva-Peña, Moya, and Salgado 2011).

Recent studies carried out with young Mapuches inform the possible identity dilemmas present in living in an urban environment (Mateo Piñones and Valenzuela Carvallo 2017; Merino, Klenner, and Larrañaga 2017; Warren 2017). Nevertheless, the mapuche narrative continues to have a crucial role that allows them to maintain contact with their roots (Merino, Becerra, and De Fina 2017). In fact, although there is a phenomenon of migration to the cities of the Mapuche people, Mapuche families maintain their ethnic identity and cultural practices in the urban environment (Becerra et al. 2017). Recent studies have pointed out the importance of incorporating Mapuche educational knowledge into the school context to develop a bilingual and non-monocultural intercultural model in Chile (Quilaqueo, Quintriqueo, and Torres 2016; Quilaqueo, Torres, and Quintriqueo 2017). This implies developing an intercultural identity within teaching to

overcome racism towards the Mapuche knowledge (Quilaqueo, Quintriqueo, and Riquelme 2016).

These school years coincide with the evolutionary period where there is the largest number of contrasted biological, social and psychological changes (Sawyer et al. 2012). Adolescence is a period where numerous investigations focused on the study of childhood and youth psychopathologies have been carried out. Therefore, the presence of emotional symptoms, such as withdrawal, somatic complaints and anxiety-depression; and behavioural symptoms, referring to symptoms like rage or aggressiveness, heteroaggressiveness, impulsiveness, destruction of objects, substance abuse or behavioural problems in the household and at school, are generally differentiated (e.g. APA 2013, 13; Epstein et al. 2014; Lowry et al. 2014; Maslosky et al. 2014; Moksnes, Espnes, and Haugan 2014). Moreover, the emotional symptoms as much as the behavioural symptoms are related to the emergence of health risk behaviours and academic failure (Berger-Silva et al. 2014; Florenzano et al. 2010; Quiroga et al. 2013; Verboom et al. 2014), being that the incidence of appearance of emotional disorders is higher in women and behavioural disorders higher in men, not only at a global scale but also in Latin American countries (APA 2013; de la Rubia and Ortiz 2013; Fraser 2016; Korcha et al. 2014; Nivette et al. 2014; Rice et al. 2015; Vicente, Saldivia, and Pihán 2016).

Nevertheless, in general few studies exist about Mapuches' mental health and psychopathology and, in particular, of adolescents (Pérez, Nazar, and Cova 2016). Hence, some of the studies on adults show that 28.4% of the adult Mapuche population has had a mental disorder in their lifetime, and 15.7% in the past 12 months. However, the prevalence of psychiatric disorders is higher in the non-Mapuche population (38% in their lifetime and 25.7% in the past 12 months). Specifically, the Mapuche population presents a lower prevalence in the appearance of a major depressive episode, social phobia, alcoholism and nicotine addiction (Vicente et al. 2005). Other studies with less methodological rigour show that the interneer situation produces emotional tension in the Mapuche adolescents as a result of the separation from their families and having to adapt to new ways of living among peers. However, this situation of adaptation within the young Mapuche does not seem to affect the relations of coexistence within the boarding school (Silva-Peña, Moya, and Salgado 2011). In this sense, initial studies find 14% of Mapuche adolescents feel discriminated by their companions and 60% of young Mapuches refer to having felt more discriminated at a lesser age (UNICEF 2007). Recent studies have examined the type of verbal, physical and psychological violence that indigenous or Mapuche students receive (Becerra et al. 2014), women being more susceptible to feeling sadness (Silva-Peña, Moya, and Salgado 2011).

Regarding the Mapuches' academic performance, there are few studies in scientific literature, which are contradictory and focused on the paediatric and young adult population. While some studies show that Mapuche children and young adults have a lower academic performance and higher truancy (Canales and De los Ríos 2007; McEwan 2004; Otzen et al. 2016). Some of the determinants that explain school failure in both Mapuches and Non-Mapuches students are the attitude of fatalism, attributions and emotions. Student fatalism is determined by the socioeconomic level of the family (Otzen et al. 2016). Other studies show an improvement in the performance and learning of Mapuche children in recent years. Furthermore, although Mapuches between the ages of seven and thirteen have lower marks in academic performance, these differences are minimal and decrease in the period between 1997 and 2000 (McEwan 2008). On the

other hand, the Programme for Academic Support for Mapuche Students is of great aid for the Mapuche students to improve their learning abilities and achieve their academic goals (Navarrete, Candia, and Puchi 2013; Plitt 2007).

The present study

Ultimately, in Latin America, the relationship between emotional and behavioural symptoms with the parenting methods, the influence of peers and the increase in academic performance of adolescent students has been studied (e.g. Berger-Silva et al. 2014; Florenzano et al. 2010). In addition, the adult Mapuche population's mental health and the Mapuche children and young adult's academic performance have been investigated (Canales and De los Ríos 2007; McEwan 2004, 2008). However, there are barely any contrasted investigations on Mapuches' mental health and academic performance, and even less on the adolescent period. The investigations described in scientific literature, are of a descriptive nature or surveys, whereas the more reputable ones include in the sample both adolescent Mapuches as well as young adults and adults, being a very small sample with unclear information of the number of subjects taken in the gender variable. Possibly, these limitations in past studies are due to difficulties in obtaining a representative sample of indigenous people of the rural environment. International and ethnic studies have found that behavioural symptoms like aggressive behaviour are more frequent in males (APA 2013; de la Rubia and Ortiz 2013; Korcha et al. 2014; Nivette et al. 2014) and that Mapuche males have a role in the defence of their lands and against the discrimination (Becerra et al. 2014; Bello 2014; Crow 2013, 2017; Pérez, Nazar, and Cova 2016; UNICEF 2007; Zavala 2016). However, other studies show that Mapuches present less behavioural symptoms related to aggressiveness like alcoholism and nicotine addiction and less emotional symptomology like depression and social anxiety in comparison to the general population (Silva-Peña, Moya, and Salgado 2011; Vicente et al. 2005). Therefore, there is a lack of agreement regarding these issues. Furthermore, until now there have been no studies that have investigated the differences in emotional and behavioural symptoms and academic performance in the different adolescent periods of Mapuche Indians.

The present study intends to clarify some of this unknown information selecting a sample of male Mapuches and non-Mapuches. Taking into consideration the lack of agreement between previous studies, it is expected that Mapuche males compared to non-Mapuche males: (1) will not show significant higher scores on emotional symptomology (Silva-Peña, Moya, and Salgado 2011; Vicente et al. 2005); (2) will not present significant greater scores on behavioural problems and risky behaviours as suggested by previous studies (Silva-Peña, Moya, and Salgado 2011; Vicente et al. 2005); and (3) will not display a lower academic performance (McEwan 2008; Navarrete, Candia, and Puchi 2013; Otzen et al. 2016; Plitt 2007).

Method

Participants

The sample consisted of 233 Chilean adolescents of the VI Region of libertador Bernardo ÒHiggins and the XI Region of Araucanía (Nueva Imperial), of which 119 were Mapuche male adolescents from the IX Region and 114 non-Mapuche male adolescents from the VI

and IX Regions, with an included age group from 13 to 18 years old. The mean age was 15.98 years old ($SD = 1.15$). There were no differences found between the two samples, being the average age of Mapuches 16.03 years old ($SD = 1.18$) and 15.94 years old ($SD = 1.13$) for the non-Mapuches.

An incidental sampling of the non-Mapuche community of the VI Region of Libertador Bernardo O'Higgins and the IX Region of Araucanía (Nueva Imperial) and of the adolescents of the Mapuche community from rural areas of the IX Region of Araucanía was used. The Mapuche sample stayed in a boarding school during all the time between Monday to Friday. However, the non-Mapuche sample stayed in a boarding school or at home Monday to Friday. Mapuches are bilingual, speak Spanish and araucano or Mapudungun.

Instruments

Socio-demographic questionnaire

Instrument elaborated ad-hoc for this study. It consists of a series of questions about age, gender, school year and place of birth.

To evaluate the emotional symptoms, the *Revised Child Anxiety and Depression Scale* (RCADS; Chorpita et al. 2000; Spanish version by Sandín et al. 2010; Sandín, Valiente, and Chorot 2009) was used. The original version is made up of 47 items valued on a frequency scale from 0 to 3 which aim to evaluate a wide range of anxiety and depression symptoms in adolescents and children. Besides the total score six subscales can be calculated, which are; separation anxiety, social phobia, generalised anxiety disorder, panic/agoraphobia, obsessive-compulsive disorder and major depression disorder. The psychometric properties of this test in the Spanish population are excellent (Sandín et al. 2010; Sandín, Valiente, and Chorot 2009). The scale has shown good psychometric properties in other Latin American countries (Batista and Martínez 2013) and has been used in international investigations on Spanish-speaking population (Araya et al. 2011, 2013; Araya, Montgomery, et al. 2013). The internal consistency was good for each subscale and the total score: panic disorder $\alpha = .85$, social phobia $\alpha = .82$, separation anxiety disorder $\alpha = .73$, generalised anxiety disorder $\alpha = .74$, OCD $\alpha = .71$, major depressive disorder $\alpha = .85$, and total $\alpha = .94$.

To evaluate the behavioural symptoms, the *Inventory of School Difficulties in Adolescents* was used (ISDA; Martínez-González and Vera 2013). This questionnaire was elaborated to allow identifying those adolescents with behavioural problems and health risk behaviour through a survey. The ISDA consists of 13 items in a Likert scale format in ascending order (Never = 0, Sometimes = 1, Often = 2, Always = 3) and contains 2 subscales; behavioural problems and risky behaviour. The test measures the frequency of these conducts in the past year: The behavioural problems subscale contains items on perceived lack of support and conflicts with teachers, parents and peers and academic demotivation. The risky behaviour subscale includes items for illegal drug consumption, alcohol abuse and risky sexual practices. This scale presents excellent psychometric properties in Spanish-speaking population (Martínez-González et al. 2016). The reliability indices indicate that the internal consistency was high for the total score of the ISDA ($\omega_t = .86$), the behavioural problems subscale ($\omega_t = .78$) and the risky behaviour subscale ($\omega_t = .87$).

The indicator for academic success was evaluated with a question of whether the student had repeated a year, which he or she had to answer.

Procedure

An interview was carried out with the participating centres' directors and educational psychologists to explain the objective of the investigation, describe the evaluation instruments, request the necessary permits and promote collaboration. Subsequently, a meeting with the parents was held to explain the study and ask for the notified consent authorising their children to participate in the investigation. The protocol was managed in the same adolescent educational centres. The subjects completed the protocol in their classes, collectively and totally voluntarily during the 2nd semester of the year 2013 prior written consent by the educational centres. Hereafter, they were given the instructions of each of different scales used. The primary author of this study remained in the classroom during the completion in order to provide individualised help to those students who had difficulties. The time taken to complete all the scales was approximately 30 min. No subject received any economic incentive.

Statistical analysis

The statistical analyses were carried out with the statistical package of IBMSPSS-Statistics 22 (SPSS 22 2013).

To analyse the differences in emotional and behavioural symptoms between male adolescent Mapuches and non-Mapuches, the test of statistical significance, Student's *t* test was applied. Due to the sample size of the study, the statistician of the Student's *t* test can detect erroneously differences statistically significant. For this reason, the *d* index (standardised mean difference) put forward by Cohen (1988), which allows evaluating the magnitude or size of the effect of the differences found, is also included. The interpretation is simple: $20 \leq d \leq .50$ implies a small effect size, while $.51 \leq d \leq .79$ is moderate and $d \geq .80$ large.

Results

Differences in emotional symptoms between Mapuches and non-Mapuches

The results show that Mapuche adolescents do not have in any way, more anxiety and depression problems than the non-Mapuche adolescents. The Mapuche adolescents exceed the non-Mapuches in social phobia, generalised anxiety and obsessive-compulsive disorder, but it is not statistically significant ($p > .05$), (See Table 1).

Table 1. Emotional symptomatology of Mapuches and non-Mapuches.

RCADS	Mapuches <i>M</i> (<i>SD</i>)	Non-Mapuches <i>M</i> (<i>SD</i>)	<i>t</i>	df	<i>p</i>
Separation Anxiety Disorder	1.73 (2.25)	2.10 (2.57)	1.18	231	.24
Social Phobia	8.51 (4.31)	8.36 (4.99)	-.25	231	.80
Generalised Anxiety Disorder	6.84 (3.23)	6.39 (2.89)	-1.11	231	.27
Panic	4.71 (3.69)	5.01 (3.85)	.61	231	.54
Obsessive-Compulsive Disorder	4.21 (2.84)	3.77 (2.90)	-1.17	231	.24
Major Depressive Disorder	7.14 (3.93)	7.68 (4.23)	1.01	231	.31
Total score	33.14 (15.63)	33.32 (17.32)	.08	231	.93

Note: *M* = Mean; *SD* = standard deviation; *t* = *t* Student; df = degrees of freedom; *p* = *p* value.

Table 2. Behavioural problems and risky behaviours of Mapuches and non-Mapuches.

ISDA	Mapuches M(SD)	Non-Mapuches M(SD)	<i>t</i>	<i>p</i>	df	<i>d</i>
Behavioural Problems	4.76 (2.70)	5.32 (3.18)	1.47	.06	231	–
Risky Behaviours	2.81 (2.62)	3.36 (3.05)	1.48	.02	231	–.19

Note: *M* = Mean; *SD* = standard deviation; *t* = *t* Student; *df* = degrees of freedom; *p* = value; *d* = Cohen's *d* (standardised difference between two means).

Differences in behavioural problems and risky behaviours between Mapuches and non-Mapuches

The results show that the non-Mapuche adolescents present ratings significantly higher in the health risk behaviour subscale of the ISDA. The data obtained in the behavioural problems subscale is approximate to statistical significance. Therefore, the non-Mapuche adolescents perceive less support, they reveal to present conflicts with the teachers, parents, peers and their academic motivation is less than the Mapuches'. In reference to the health risk behaviours, there are significant statistical differences in favour of the non-Mapuche adolescents. Thus, the non-Mapuche adolescents show that they have a higher level of illegal drug consumption, excessive alcohol consumption and risky sexual activities in relation to the Mapuche adolescents. However, the effect size was small (See Table 2).

Differences in academic success between Mapuche and non-Mapuche adolescents

The results indicate that there are no differences in academic success between the Mapuche and non Mapuche adolescents, $t(231) = .65$, $p > .05$. The mean for Mapuche adolescents was .21 ($SD = .41$) and for Non-Mapuche adolescents .25 ($SD = .43$).

Discussion

The aim of this study was to analyse the differences in emotional symptoms, behavioural problems, risky behaviours and academic success between Mapuche and non-Mapuche males. The first hypothesis referring to the absence of differences on emotional symptoms between Mapuche and non-Mapuche adolescents was confirmed. Therefore, even though it seems that the average ratings in social phobia, generalised anxiety and obsessive-compulsive disorders are higher in Mapuche adolescents in relation to the non-Mapuches our results reflect that there were no significant statistical differences regarding the emotional state or internalising symptoms between Mapuche and non-Mapuche adolescents. Hence, our results correspond with the data of past studies that indicate a lesser prevalence in psychiatric disorders in the adult and young adult Mapuche population (Vicente et al. 2005).

Regarding the second hypothesis about the non-appearance of differences in behavioural problems and risky behaviours between Mapuche and non-Mapuche adolescents, it has been partly confirmed likewise, since Mapuche and non-Mapuche adolescents show similar behavioural problems. However, the non-Mapuche adolescents have higher illegal drug consumption, alcohol consumption and risky sexual activities, although the magnitude of the differences is very small. These results are similar to those found in

past studies which have shown a higher prevalence in health risk behaviours like drug consumption, etc. in the Chilean non-Mapuche adolescent population (Vicente et al. 2005).

Regarding academic performance, no differences were found with academic success between Mapuche and non-Mapuche adolescents. Our data support the hypothesis of previous studies about the equivalence in academic performance between Mapuche and Non-Mapuche population. In this regard, previous studies had shown a decrease in difficulties learning the Spanish language and mathematics in years between 1997 and 2000 in the Mapuche university population (McEwan 2008). This finding is of great interest to continue the academic support programmes in the Mapuche school population.

Therefore, this study provides data of interest about the differences regarding emotional symptoms, behavioural problems, risky behaviours and academic success between Chilean non-Mapuche adolescents and a group of Mapuches. This data are in line with previous literature that puts forward the need to perform studies about ethnic groups to study the psychological differences between a country or continent's general population and an ethnic group (APA 2013).

Nevertheless, the present study shows a series of limitations that future investigations should consider: (1) the results obtained cannot be generalised to other communities (for example: infants and adults); (2) in this investigation only self-report measures have been used, and no type of measures from other informants like teachers and parents have been considered, which may cause biases like social desirability on the adolescent; (3) in this sample female adolescents have not been included so future studies should include them and (4) in the academic performance variable students' grades, intellectual level, etc. should be taken into account.

However, despite the mentioned limitations, our findings could be of great value to the scientific community and to socio-sanitary and political institutions from Chile in order to develop the best mental health and educational policies for young people. Anyway, future studies should investigate these and other variables related to the mental health of minorities in greater depth.

Acknowledgments

We are very grateful to SCHOLARSHIPS IBEROAMERICA for Young Teachers and Researchers (Santander Universities. 2013)

Disclosure statement

No potential conflict of interest was reported by the authors.

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