

# Intercultural Contact as a Predictor of Cultural Intelligence \*

## El contacto intercultural como un predictor de la inteligencia cultural

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### ABSTRACT

With the aim of observing to what extent intercultural contact is a predictor of cultural intelligence, and the relationship between cultural intelligence, type of intercultural contact, gender and education, descriptive and inferential statistical analyses were conducted using the ANOVA and *t*-test. With a sample of 661 individuals, results show that intercultural contact is a predictor of cultural intelligence and that men and individuals who possess superior level studies present higher cultural intelligence means. Those who maintain intercultural contact with friends or family present superior cultural intelligence means in metacognitive and motivational dimensions and individuals who maintain an intercultural contact in professional environment present high score at the level of cognitive and behavioral dimensions.

### Keywords

Intercultural contact; cultural intelligence; type of contact; gender; education.

### RESUMEN

Con el objetivo de observar en qué medida el contacto intercultural es predictor de la cultura cultural, y la relación entre la inteligencia cultural, tipo de contacto, género y educación, se han realizado análisis estadísticos descriptivos e inferenciales utilizando ANOVA y el test *t*. Con una muestra de 661 individuos, los resultados muestran que el contacto intercultural es predictor de la inteligencia cultural, y que los hombres e individuos que poseen estudios de nivel superior presentan una inteligencia cultural superior. Aquellos que mantienen contacto intercultural con amigos o familiares presentan una inteligencia cultural superior en las dimensiones metacognitivas y motivacionales, y las personas que mantienen un contacto intercultural en un entorno profesional presentan una puntuación alta en el nivel de las dimensiones cognitivas y de comportamiento.

### Palabras clave

Contacto intercultural; inteligencia cultural; tipo de contacto; género; educación.

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The processes of globalization, migration and increased cultural diversity among Nations, led to a greater need to understand intercultural relations in plural societies (Sousa, Gonçalves, & Cunha, 2015; Van Oudenhoven & Ward, 2013). This is because this intercultural reality entails influences both, in organizational contexts and, in any social sphere of any nation. The world is increasingly interconnected and interdependent and culturally diverse, in addition to driving innovation, is a critical component to success on a global scale (Forbes, 2011). Living and working in an intercultural society requires an awareness realization that there are different systems of values, rules, behaviors, inherent to different cultures, and that it is essential to better understand them, in order to be able to communicate and interact effectively (Rocha, 1991). In fact, the ability to relate to people of different cultures has become an increasingly important competence (Dusi, Messetti, & Steinbach, 2014). That is the reason why various intercultural competencies, which are assumed as fundamental to tackle all the metamorphoses that societies and organizations face, have emerged in the literature (e.g., Sousa & Gonçalves, in press). Among them, cultural intelligence is considered crucial to deal with cultural diversity, facilitating the adjustment and integration into new cultures. Associated with cultural intelligence is the intercultural contact (Earley & Ang, 2003), inevitable, for both citizens of the host country, and for those who are displaced from their homeland. In addition, most of the work in organizations consists of tasks related to language and communication and without deeper knowledge about intercultural communication it will be more challenging to be successful in this global village (Pikhart, 2014).

Given the opportunity and relevance of these constructs, it is our goal to observe the effect of the frequency of intercultural contact with individuals of other nationalities in the development of cultural intelligence and its dimensions. Deepen the predictors of attributes as cultural intelligence, is an asset for organizations once cultural intelligence is

especially valuable in times of uncertainty and change (Llopis, 2011). Organizations need to become more resilient, take risks and not be afraid of failing, looking for innovation with an entrepreneurial spirit (Llopis, 2011).

### **Cultural intelligence and intercultural contact**

Cultural intelligence, although compatible with the conceptualizations of intelligence (adaptability and adjustment to the environment (Gardner, 1993; Sternberg, 2000)) differs from other types of intelligence because it focuses specifically on the culturally diverse interactions (Van Dyne, Ang, & Koh, 2008). Despite its close relation to emotional intelligence, cultural intelligence is making headway where emotional intelligence loses (Earley & Mosakowski, 2004). Emotional intelligence differs from cultural intelligence insofar as feeling management is not related to cultural contexts, that is, although an individual may be emotionally intelligent in his/her own country, this does not mean that he/she as the same performance in other cultures. Cultural intelligence is independent of culture; i.e., it is related to cultural diversity (Ang et al., 2007). For example, Kim, Kirkman and Chen (2008) demonstrated divergent validity of cultural intelligence from emotional intelligence (CFI = 0.95). Earley and Ang (2003) to explain why some individuals present a more effective performance than others in intercultural situations developed a conceptual model of cultural intelligence from the multidimensional perspective of the intelligence of Sternberg and Detterman (1986). Cultural intelligence is defined as the ability of effective adaptation in different cultural environments (Ang, Van Dyne, & Rockstuhl, 2015; Earley, 2002) the ability to adapt to others (Ng & Earley, 2006) and to various cultural situations (Ang, Van Dyne, & Koh, 2006), i.e., cultural empathy (Ridley & Lingle, 1996) and is motivated by the real practice of globalization both in the workplace (Earley & Ang, 2003) and in the society. Thus, a high level

of cultural intelligence allows the adaptation and modeling of behavior, before the contact with people from different cultural areas (Solomon & Steyn, 2017). Cultural intelligence is a set of capabilities and skills that allow us to interpret behaviors and situations that are unfamiliar, as well as, identify behaviors that are universal to all mankind, behaviors that are cultural and behaviors that are idiosyncratic to one particular individual in a specific situation (Van Dyne, Ang, & Livermore, 2010). Cultural intelligence can be defined as a multidimensional construct comprising four dimensions: metacognitive, cognitive, motivational and behavioral (Ang et al., 2007).

The metacognitive dimension corresponds to the cultural awareness during the interaction with different cultures, being a crucial component as it promotes active thinking about people and situations in an unfamiliar environment. On the other hand, it not only triggers critical thinking about habits and beliefs but also enables you to make an assessment and review of mental maps thus increasing the understanding capacity (Van Dyne et al., 2008).

The cognitive dimension refers to the knowledge of cultural norms, behaviors, practices and conventions in different cultures, obtained through experience and education, and encompasses the knowledge of economic, social and legal system from different cultures and subcultures as well as the knowledge of cultural values (Rose, Ramalu, Uli, & Kumar, 2010).

The motivational dimension conceptualizes the ability to direct the attention and energy towards the cultural differences, i.e., it is a form of self-efficacy and intrinsic motivation in intercultural situations (Van Dyne et al., 2008). The motivational dimension is necessary for individuals to adapt to different norms and cultural values, and to have interest and curiosity, that is, the impulse, to respond to ambiguity (Tuleja, 2014).

The behavioral dimension refers to the ability to express, verbally and non-verbally, appropriate behaviors when interacting with people from different cultures (Van Dyne et al., 2008). In short, individuals with a high level of cultural

intelligence have a repertoire of strategies and behaviors for guidance when faced with unfamiliar perspectives and behaviors. So, when something bizarre or random happens, they have a mental framework to discern what is cultural and what is particular to a person or organization (Livermore, 2011; Thomas et al., 2015).

For Thomas (2006) cultural intelligence is composed of three dimensions: knowledge (of what culture is, how it varies and affects behavior is fundamental for achieving high cultural intelligence), mindfulness “a heightened awareness of and enhanced attention to current experience or present reality” (Brown & Ryan, 2003, p.822) and behavioral ability (ability to behave appropriately in different cultural settings), and these three together give the ability to interact effectively across cultures. Following this line of thought, Tuleja (2014) reinforces the concept of mindfulness, to define culturally intelligent people, that is, people highly motivated and interested in intercultural contact, who can evaluate a situation and act accordingly. Mindfulness, according to Tuleja (2014), is a metacognitive strategy that the culturally intelligent person must practice in order to be successful in intercultural interactions.

Intercultural contact can be defined as the communication that occurs between people of different national cultures, and many scholars limit it to face-to-face communication (Gudykunst, 2002). According to Arasaratnam (2012) intercultural contact "occurs when cultural differences between individuals affect the exchange of communication in ways that would be insignificant if these differences did not exist" (p.136). Intercultural contact occurs at two levels: interpersonal (focused on identities and relations between others) and intergroup (focused on the identities and relationships between the represented groups) (Gudykunst, 2005; Ni, Wang, & De la Flor, 2015). At the interpersonal level, it includes elements such as appropriateness (ability to perform an act in accordance with the expectations and norms required by the relationship and situation (Spitzberg & Cupach, 1984)) and effectiveness

(degree to which the recipient of a message attributes and accepts a meaning relatively close to what the sender encodes (Gudykunst, 2005)). That is, a competent communicator must consider the expectations, norms and beliefs of both parties (Ni et al., 2015). In this sense, interaction and knowledge resulting from intercultural contact promote the process of transforming the ability of cultural intelligence to allow the individual to control and process the information of the new culture (Nunes, Felix, & Prates, 2017).

This positive relationship between intercultural contact and cultural intelligence has been pointed out in several studies (Crowne, 2008; Gelfand, Imai, & Fehr, 2008; Mukherji, Jain, & Sharma, 2016; Presbitero & Attar, 2018). Moreover, the intercultural contact is closely related to the concept of cultural intelligence (Earley & Ang, 2003; Yeke & Semercioz, 2016) and theoretically, it is a notable precursor of it (Gelfand et al., 2008; Nunes et al., 2017). So, it can work as a predictor of cultural intelligence and its dimensions. A study by Lee, Crawford, Weber, and Dennison (2018) with a sample of 938 American college students demonstrated that along with other variables (e.g., intercultural training, international travel) the daily intercultural social contact is a predictor of cultural intelligence. Thus, individuals living and interacting with people of a different culture for a significant time are more likely to develop their cultural intelligence and its four dimensions (Kurpis & Hunter, 2016).

An increased frequency of intercultural contact will enhance a greater level of: a) metacognitive dimension (since individuals adjust their mental model based on cultural interactions, questioning about their own cultural norms and the assumptions they have about other cultures, planning and reflecting on what's happening during the cultural interactions); b) cognitive dimension (increase of general and specific knowledge on different cultures, its norms, behaviours and habits); c) motivational dimension (individuals acquire greater confidence to interact with people from other cultures, directing their energy to

a more effective intercultural interaction, and d) behavioural dimension (individuals with an increased frequency of intercultural contact feature higher capacities to express verbal and non-verbally, for example, adjusting the tone of voice, the accent, the facial expressions, the body language and the communication of certain types of messages as apologies, say no, make invitations, etc., using appropriate cultural standards (Van Dyne et al., 2012).

Some studies have shown that people with higher cultural intelligence are more efficient in managing conflicts (Gonçalves, Reis, Sousa, Santos, & Orgambidez-Ramos, 2015; Gonçalves et al., 2016), in decision-making in intercultural situations, adapting to culturally diverse situations (Dyne et al., 2007) and exhibiting more effective intercultural leadership skills (Deng & Gibson, 2009; Mukherji et al., 2016; Tuleja, 2014). Other investigations have also considered the existence of differences between gender and educational level in the levels of cultural intelligence (e.g., Gonçalves, Sousa, Santos, Orgambidez-Ramos, 2013; Mæland & Wattenberg, 2017).

Given the importance of the development of intercultural skills in a globalized world (e.g., Li, Mobley, & Kelly, 2016), identifying predictors that promote the development of competencies such as cultural intelligence seems to be of utmost importance. So, we expect that the intercultural contact function as a positive predictor of cultural intelligence and its dimension development. Although some research has focused on the predictors of cultural intelligence, there is still a shortage of studies on these constructs in Portugal; Portugal is a country that is marked by considerable diversity in terms of foreign communities. According to the National Institute of Statistics (2018), there are 36,369 immigrants living in Portugal. This cultural diversity presents itself as a challenge, not only for immigrant individuals but also for the society that welcomes them. One of the main difficulties pointed out by immigrants in their integration into a new culture is language and communication with the host society members.

Communication provides the basis for mutual understanding (Tung, 1993), that is, language skills have been deemed a determining factor for the social and economic integration of foreigner in the host society (Isphording & Otten, 2014). Poor language skills in the host country result in exclusionary situations, as they create difficulties in interacting with the local population (Kaida, 2013; Sousa & Gonçalves, 2015). In this context, multicultural skills such as cultural intelligence can blur cultural differences, facilitating not only communication but also the integration of foreign individuals. Considering the pertinence of this theme, and the scarce investigation carried out in Portugal, this study has as main objective to observe the effect of intercultural contact in cultural intelligence, that is, to what extent intercultural contact presents itself as a predictor of cultural intelligence, as well as, the relationship between cultural intelligence, type of contact, gender and education.

## Method

### *Population and sample*

This study used a convenient and accessible sample built through the contact, in accessible places, of individuals of the population that accepted to participate (Hill & Hill, 2000). The sample is made up of participants who were by the following inclusion criteria: age over 18 years. Only the questionnaires completed correctly were considered. The sample consists of 661 Portuguese participants, 35.2% male ( $N = 233$ ) and 64.8% of female ( $N = 428$ ), mainly from the Algarve and Alentejo regions (78%). Ages range from 18 to 66 years ( $M = 30.85$ ,  $SD = 11.01$ ). Regarding the level of education, the distribution of the participants is as follows: undergraduate degree (50.2%), secondary education (24.1%), master degree (4.1%), doctorate degree (8.8%), postgraduate course (12.1%) and basic education (0.8%). In regard to the professional situation, about 63.3% are employed, 32.7% are students, 1.2% retired and 2.9% unemployed. There are

no significant differences ( $p > 0.05$ ), either in respect of the gender or educational level.

### *Variables and Measures*

*Cultural Intelligence*: this variable was operationalized through the mean observed in the Cultural Intelligence Scale (CQS), adapted to the Portuguese population by Sousa, Gonçalves, Reis and Santos (2015), it was originally developed in English by Van Dyne and colleagues (2008). This 20-item tool, rated according to a Likert-type scale from 1 (Strongly Disagree) to 7 (Strongly Agree), is a multidimensional measure that includes four dimensions of "intelligence", also our study variables: metacognitive (4 items, e.g., item 1: "I am conscious of the cultural knowledge I use when interacting with people from different cultural backgrounds"), cognitive (6 items, e.g., item 7: "I know the cultural values and religious beliefs of other cultures"), motivational (5 items, e.g., item 11: "I enjoy interacting with people from different cultures") and behavioral (5 items, e.g., item 18: "I vary the rate of my speaking when a cross-cultural situation requires it"). The Cronbach's alpha for the Portuguese adaptation of the scale was 0.93; the alpha of the scale dimensions ranged from 0.86 to 0.89.

*Level of intercultural contact*: Participants were questioned about the frequency of contact with people of other nationalities, in the context of work and in personal context. These two questions were assessed using a Likert scale of 7 points (1 - never to 7-ever). The intercultural contact variable was categorized in three levels, through the Visual Binning process available in SPSS, taking into account the frequency level of intercultural contact of individuals: 1) none contact, 2) medium contact; and 3) maximum contact. These categories were automatically grouped, with the first category corresponding to response levels 1 and 2 (never and almost never), the second category concerned response level 3 (sometimes) and the third category grouped participants who responded to Likert scale levels

4, 5, 6 and 7 (regularly, quite often, almost always and always, respectively).

*Type of intercultural contact:* Participants have still placed a question in relation to the context in which this contact occurs (labor context and/or personal context).

*Gender:* nominal variable, in which participants chose between three possible options: male/female/other.

*Education:* nominal variable, operationalized in a multiple-choice question (basic education, secondary education, bachelor's degree, postgraduate course, master's degree and doctorate degree).

In addition to the scale, the frequency level of intercultural contact, type of contact, gender and education, items on the biographical variables (age, employment status and birthplace) were included, in order to characterize the sample.

### Procedures

*Data collection:* Upon approval of the University of Algarve Scientific Committee from the (entity responsible for monitoring the procedures and ethical safeguards of research) and assurance of ethical criteria (e.g., information about the voluntary and anonymous nature of the study), participants were asked to answer a self-report questionnaire with an average completion time of 10 minutes. To collect the sample, a researcher contacted all the people present in several places, collectively and individually, namely in university classes, public and private companies, public libraries, and other public places. The questionnaire was answered by the people who showed their willingness to participate.

*Data analysis:* The data collected were analyzed according to the unifactorial design 3 (intercultural contact level: none vs. medium vs. maximum) and were statistically analyzed using IBM SPSS (version 22.0) and the significant level was assumed at 0.05.

*Dimensions Analysis:* Mean scores and standard deviations were calculated for each dimension of the variable under study.

## Results

Through table 1 it is possible to observe that the metacognitive dimension ( $M = 4.99$ ) is the dimension that shows the highest mean and the cognitive dimension ( $M = 3.86$ ) the lowest mean. The internal consistency of the scale was measured with the Cronbach's alpha coefficient. The cultural intelligence scale (20 items) has a Cronbach's alpha of 0.93, and the alpha of the dimensions ranged from 0.87 to 0.89.

**Table 1**

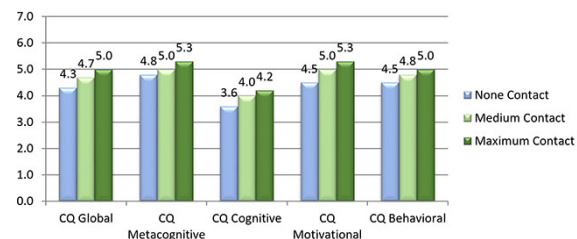
Mean scores, standard deviations and internal consistency for cultural intelligence

Variable	<i>M</i>	<i>SD</i>	$\alpha$
Cultural Intelligence	4.56	0.93	0.93
Metacognitive	4.99	1.08	0.87
Cognitive	3.86	1.10	0.89
Behavioural	4.74	1.16	0.87
Motivational	4.89	1.18	0.88

To assess whether the intercultural contact frequency affects the levels of global cultural intelligence and respective dimensions, an ANOVA one-way analysis was used, followed by the Tukey test as described in Marôco (2011).

*Figure 1*

Cultural intelligence 's means according to the frequency level of intercultural contact



Through Figure 1 it is possible to observe that the more frequent is the intercultural contact, the greater the mean of cultural intelligence, be it global, or in its four dimensions.

The ANOVA between groups analysis showed a significant effect of frequency of intercultural contact in cultural intelligence ( $F_{(2)} = 28.002, p = 0.00$ ) and its dimensions: metacognitive ( $F_{(2)}$

= 12.829,  $p = 0.00$ ), cognitive ( $F_{(2)} = 19.018$ ,  $p = 0.00$ ), behavioural ( $F_{(2)} = 10.881$ ,  $p = 0.00$ ) and motivational ( $F_{(2)} = 32.540$ ,  $p = 0.00$ ).

According to the Tukey test, statistically significant differences ( $p \leq 0.01$ ) occur, except in the dimensions: metacognitive and behavioural, whose only significant difference is observed between the frequency of intercultural contact level “none” and the frequency of intercultural contact level “maximum”; and cognitive, where the difference between the mean of “medium” intercultural contact frequency level and the level “maximum” is not significant (mean difference = -0.19;  $p = 0.202$ ).

#### *Gender, education and type of contact*

Other exploratory analyses for biographical variables were carried out in such a way as to complement this analysis.

In relation to gender, and by using the  $t$ -test, it was possible to observe that it is the males that present cultural intelligence higher means in all dimensions. The mean differences are statistically significant at the global dimension of cultural intelligence, where the male gender presents a higher cultural intelligence mean ( $M = 4.68$ ) in relation to the feminine gender ( $M = 4.51$ ) to  $t_{(495)} = 2,328$ ,  $p = 0.02$ . Also in the cognitive dimension, means differences are statistically significant between the masculine gender ( $M = 4.03$ ) and the female gender ( $M = 3.77$ ), to  $t_{(447)} = 2.748$ ,  $p = 0.01$ . The same applies in motivational dimension where the means male gender ( $M = 5.05$ ) is superior and statistically significant given the mean presented by female gender ( $M = 4.80$ ), to  $t_{(504)} = 2.639$ ,  $p = 0.01$ .

With regard to educational level variable, it was possible to observe that individuals who possess superior level studies (e.g., bachelor, master, or doctorate degrees) are those who present higher means of cultural intelligence in all dimensions ( $p \leq 0.05$ ), in comparison to the individuals with medium educational level (e.g., basic or secondary education).

Finally, we compare cultural intelligence means, taking into account the type of intercultural contact, i.e., if this contact occurs in workplace (e.g., colleagues, supervisors, students) or in a personal environment (e.g., friends, family). The analysis performed through the  $t$ -test shows that in relation to the level of global cultural intelligence, metacognitive, motivational and those who maintain an intercultural contact with friends or family members are those with superior cultural intelligence means. At the level of cognitive and behavioral dimensions, individuals who maintain an intercultural contact in professional environment present higher means. Note, that only the motivational dimension was unable to verify a statistically significant mean difference between those who live in a working environment ( $M = 4.74$ ) and those who live in personal context ( $M = 5.12$ ) for  $t_{(109)} = -2.011$ ,  $p = 0.05$ .

#### **Discussion and conclusions**

The results of this study show that the frequency of intercultural contact is an important predictor of cultural intelligence, as advanced in the study of Crowne (2008). In general, the cognitive dimension was the one that presented the lower means. Namely, it seems that an increased frequency in contact with individuals of other nationalities does not necessarily mean an increase in the level of general and specific knowledge about different cultures, their rules, their behaviors or habits. Although valid, this hypothesis lacks scientific evidence, so it would be pertinent to assess, for example, the number of nationalities with which individuals interact, the languages spoken, and the amount of time they spend interacting with foreign individuals. It was also possible to observe the difference in the means of cultural intelligence based on the three intercultural contact frequency levels.

In terms of metacognitive and behavioral dimensions, it was possible to detect significant differences in the means of both dimensions, among those who do not maintain any

intercultural contact and those who are in daily contact with foreign individuals. That is, frequent intercultural contact often appears decisive for the development of these two dimensions. On the one hand, because it allows them a greater awareness and cultural sensitivity, and on the other, because it allows them to adopt appropriate behavior (verbal and non-verbal) for each situation.

Concerning the cognitive dimension, it was possible to observe that there is no significant difference between those who maintain a medium intercultural contact and those that have maximum contact. Finally, it was found a significant effect of the frequency of intercultural contact in the motivational dimension, among the three groups. In other words, the more frequent the contact, the more individuals acquire greater confidence to interact with people from other cultures, directing their energy to a more effective intercultural interaction. With regard to the type of intercultural contact, it should be noted that it is in a professional environment that cognitive and behavioral dimensions present higher means. On the other hand, the global cultural intelligence and metacognitive and motivational dimensions tend to be higher in individuals who interact with friends and/or family members of other nationalities. According to Crowne (2008), some cultural experiences are more relevant than others to the development of cultural intelligence levels. Thus, future studies may deepen this relationship between cultural intelligence, the frequency and type of intercultural contact.

On the differences between genders, the results show that males are those with a higher level of cultural intelligence, being this difference statistically significant in global, cognitive and motivational dimensions. This finding get support from the study of Alon, Boulanger, Meyers, and Taras. (2016) that stated that females ranked lower than males in the cognitive dimension. In order to enrich this evidence, it would be relevant to deepen cultural experiences (e.g., travel, international studies, professional experience, educational level) of both genders, in order to try to understand

these differences in cultural intelligence levels. Regarding the educational level, it was possible to observe that individuals with higher education are those that feature higher cultural intelligence means, which is in line with some studies carried out (e.g., Crowne, 2008; Khodadady & Ghahari, 2011).

Although the tests that we utilized in hypotheses testing (*t* test, ANOVA) have proved to be fairly robust even with relatively small sample sizes (Glass & Hopkins, 1996), the results of this study may be limited in the sense that we utilized a relatively small convenience sample. Other limitations that could be addressed in future extensions of this study is the operationalization of the intercultural contact frequency. This variable should be improved, seeking to identify more accurately the frequency (e.g., how many hours/days per week) with which individuals come into contact with people of other nationalities.

While relevant, the results obtained from this study can be enriched using variables considered relevant for a more in-deeper analysis of the predictors of cultural intelligence. For example, include in addition to the communicational aspects (e.g., intercultural communication competence), personality-related variables (e.g., multicultural personality, assertiveness, flexibility, self-dependent) or culture (e.g., Hofstede dimensions).

In synthesis, this study allowed us to observe that the frequency of intercultural contact positively influences cultural intelligence. In this sense, and since organizations need diversity to become more creative and receptive to change (Mazur, 2010) and need tools that enable them to integrate, host and manage cultural diversity, cultural intelligence must emerge as a response to these challenges. Organizations must outline strategies that promote contact with other cultures to develop this attribute, aiming at the improvement of performance, creativity and innovation of its human resources and teams in intercultural environments.



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## Notes

- \* Research article.