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Internet Addiction and Loneliness Among Children and Adolescents in the Education Setting: An Empirical Pilot Study

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Summary. *Research into various behavioural addictions has shown that such behaviour can negatively impact psychological wellbeing. One behavioural addiction that has been increasingly studied empirically is that of Internet Addiction (IA). Despite general consensus concerning the negative effects of IA on mental health and other indices of physical and psychosocial health, little research has been done in child and adolescent populations in specific contexts. The main objectives of this study were to (i) investigate the extent of problems caused by IA in children and adolescents, (ii) determine the socio-demographic and behavioural characteristics of children and adolescents with IA, and (iii) to provide a model capable of predicting IA in the educational context among the target population. A total of 131 Portuguese school children and adolescents participated in this study. Results indicated a relatively high incidence of IA in the sample (13%). Additionally, the correlational analyses revealed associations between IA and loneliness, social loneliness, and other variables related to the educational context. Results demonstrated that IA could be predicted using a model encompassing three variables (i.e., weekly Internet usage, loneliness, and classroom behaviour). Overall, the present findings corroborated results from other studies and added to the behavioural addiction literature by examining a younger cohort than previous empirical studies.*

Key-words*: Internet Addiction; Behavioural Addiction; Loneliness; Child and Adolescent Samples; Educational Settings*

Addició a Internet i solitud en infants i adolescents dins l'entorn educatiu: Un estudi pilot empíric

Resum. *La recerca sobre diverses addiccions conductuals ha mostrat que aquesta mena de conducta pot tenir un impacte psicològicament negatiu sobre el benestar. Una addicció conductual que ha estat cada vegada més estudiada empíricament és l'Addicció a Internet (AI). Malgrat que hi ha un consens general sobre els efectes negatius de l'AI en la salut mental i altres índexs de salut física i psicosocial, s'han dut a terme poques recerques en poblacions infantils i adolescents en contextos específics. Els principals objectius del present estudi han estat: (i) investigar l'abast dels problemes derivats de l'AI en infants i adolescents; (ii) determinar les característiques sociodemogràfiques i conductuals dels infants i adolescents amb AI; i (iii) proporcionar un model capaç de predir l'AI en el context educatiu en la població objectiu. Un total de 131 escolars portuguesos, infants i adolescents, han participat en el present estudi. Els resultats apunten a una incidència relativament alta de l'AI en aquesta mostra (13%). A més, les anàlisis correlatives han mostrat associacions entre l'AI i la solitud, la solitud social i altres variables relacionades amb el context educatiu. Els resultats han demostrat que es podria preveure l'AI tot utilitzant un model que inclogui tres variables (és a dir, utilització setmanal d'Internet, solitud i conducta a l'aula). En conjunt, els resultats d'aquest estudi corroboren els d'altres estudis i contribueixen a la bibliografia sobre les addiccions conductuals en examinar una cohort més jove que en anteriors estudis empírics.*

Paraules clau*: addició a Internet; addiccions conductuals; solitud; mostres d'infants i adolescents; entorns educatius.*

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Introduction

Since the mid-1990s, there has been an increasing number of studies examining the relationships between Internet addiction (IA) and various indices of psychological wellbeing (Kelley & Gruber, 2013; Kuss, Griffiths, Karila & Billieux, 2014). Several factors related to IA have been identified, such as attention deficit and hyperactive disorder (Yen, Ko, Yen, Wu & Yang, 2007), depression (Morrison & Gore, 2010; Pontes, Patrão & Griffiths, in press), loneliness (Moody, 2001; Yao & Zhong, 2014), low self-esteem (Niemz, Griffiths & Banyard, 2005), poorer physical health (Kelley & Gruber, 2013), and alexithymia (Dalbudak et al., 2013; De Berardis et al., 2009).

Attempts to establish causal relationships between psychosocial problems and IA are difficult as most studies are cross-sectional and only examine one cohort at a particular time (Chou, Condron & Belland, 2005; Morahan-Martin, 1999). It has been asserted that there might be four possible underpinning mechanisms capable of explaining associations between IA and psychopathology (Yen et al., 2008). Firstly, psychopathology may lead to the onset or persistence of IA on the first place. Secondly, IA may precipitate psychopathology. Thirdly, IA and psychopathology may increase vulnerability to each other. Finally, the shared risk factors, either genetic or environmental, lead to the onset or persistence of psychopathology and IA (Yen et al., 2008).

In relation to loneliness more specifically, it is generally thought that this variable plays an important role in the development of IA, and thus warrants further need to study this phenomena. In a meta-synthesis of qualitative studies on IA from 1996 to 2006 (Douglas et al. 2008), it was found that loneliness was one of the main antecedents of IA alongside feelings of isolation, low self-confidence, and low self-esteem. In fact, some authors found loneliness to be one of the best predictors of IA (Bozoglan, Demirer & Sahin, 2013; Caplan, 2002).

On the whole, there is little empirical investigation into the relationship between loneliness and IA. Despite this shortcoming in the literature, earlier studies tended to briefly describe loneliness as a possible outcome of IA in very speculative ways (Cooper, 1998; Kandell, 1998; Suler, 1999; Young, 1998b). However, more recent empirical studies have shed some light on the relationship between IA and loneliness (Bozoglan et al., 2013; Ceyhan & Ceyhan, 2008; Chen, 2012; Esen, Aktas & Tuncer, 2013; Odacı & Kalkan, 2010). The vast majority of studies to date have suggested strong links between these two variables.

Given the paucity of studies that have assessed the impact of loneliness in the development of IA – especially in younger populations and in the Portuguese context where little research has been done on behavioural addictions more generally – the present study aimed to investigate the relationships between IA and loneliness using a cross-sectional and exploratory design in a sample of children and adolescents.

In order to achieve the main objective, three research questions were formulated. More specifically: (i) given the scarcity of research on this topic in the Portuguese context, to what extent does IA constitute a problem?; (ii) what is the profile of individuals scoring highly on the Internet Addiction Test (IAT) (i.e., Internet addicts) compared to those that score lower (i.e., non-Internet addicts) in terms of socio-demographic factors, problematic behaviours and loneliness?; and (iii) which variables are the best predictors of IA in the educational context and how do they interplay with IA?

Methods

Ethical Statement

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation of the Instituto Superior de Psicologia Aplicada and with the Helsinki Declaration of 1975, as revised in 2000. Written informed consent was obtained from all participants for being included in the study.

Sample, Procedure and Participants

A self-selected sample comprising 131 Portuguese school children and adolescents in Lisbon participated in the study. Almost half of the total sample (48.1%) were male (n = 63). Ages varied from 12 years (minimum) to 19 (maximum) years ($Mean_{age}$ = 14 years, SD = 1.39; see Table 1 for a more detailed description of the sample characteristics). Participants were from three different grades and were recruited in-class with authorisation from the school's principal, information and communications technology (ICT) teachers, and parents. The survey took place 15 minutes before the start of ICT classes where students were presented with the survey questionnaire (via an online link provided), and guided by the researcher's instructions regarding the nature of the study. Additionally, anonymity and confidentiality was stressed alongside a brief explanation of the voluntary nature of the study.

Measures

Socio-demographic variables: Information was collected on nationality, gender, age, mobile Internet access, engagement in (offline) hobbies, academic study year, annual academic progression failure, and individual academic assessment failure. General problematic behaviour was assessed with questions relating to (i) subjective self-perceived victimisation of bullying and cyberbullying, (ii) classroom behaviour, (iii) social interactions, (iv) substance use, and (v) hours of weekly Internet usage.

Internet Addiction: The Internet Addiction Test (IAT) (Young, 1998a) consists of 20 self-report questions, rated on a six-point Likert scale. This test determines

the extent of problems caused by IA. Internet use can be classified by normal range (0-30), mild (31-49), moderate (50-79), and severe (80-100) (Young, 2011). However, it should be noted that no clinical or empirical cut-off points for the IAT have yet been psychometrically validated. Additionally, the Portuguese version used in this study has been previously validated, and has good psychometric properties (Pontes et al., in press). In the present study, the Cronbach's alpha was .90.

Loneliness: The 6-item De Jong Gierveld Loneliness Scale (De Jong Gierveld & Van Tilburg, 2006) is a valid and reliable tool for measuring overall, emotional, and social loneliness rated on a three-point Likert scale based on Weiss' (1973) theories, and can be used across all ages, and also to assess individual's subjective evaluations of the situations they are in. Overall loneliness relates to the sum scores of all six items, and ranges from 0 to 6, where 0 indicates no loneliness and 6 indicates severe loneliness. Items from the emotional loneliness scale include: "*I experience a general sense of emptiness*", "*I miss having people around*", and "*I often feel rejected*" while social loneliness comprises the following items: "*There are plenty of people I can rely on when I have problems*", "*There are many people I can trust completely*", and "*There are enough people I feel close to*". In this study overall loneliness as reflected by the six items was assessed. However, the authors proposed no cut-off scores for the short scale. Therefore, a cut-off of 6 points (maximum points possible to obtain) as indicative of severe loneliness was adopted. The Cronbach's alpha of the translated version used was .67.

Statistical Analysis

Statistical analysis comprised (i) general descriptive statistical analyses, (ii) independent sample tests for mean comparisons alongside effect sizes, (iii) several correlational analyses, and a (iv) stepwise multiple regression with scores on the IAT as the outcome variable (i.e., dependent variable) using *IBM SPSS Statistics Version 21*. All statistical tests adopted a significance level of .05.

Results

Descriptive Statistics

In terms of the extension of the problems caused by IA, using a cut-off of 80 points (Young, 2011), a relatively high percentage of the students (13%) were classed as 'severely addicted' (n = 17). Furthermore, a small percentage of students (8.4%) appeared to be 'severely lonely' (n = 11).

Table 1. Socio-Demographic Characteristics of The Sample.

N	**131**
Nationality (n, %)	
Portuguese	118 (90.1)
Portuguese & Other (not specified)	11 (8.4)
Other (not specified)	2 (1.5)
Gender (male, n, %)	63 (48.1)
Age, years; Mean (SD)	14.3 (1.39)
Owning a device with portable Internet access (n, %)	92 (70.2)
Engagement in an offline hobby (yes, n, %)	52 (39.7)
Academic study year (n, %)	
7th grade	15 (11.5)
8th grade	57 (43.5)
9th grade	59 (45)
Annual academic progression failure (yes, n, %)	47 (35.9)
Nº of Annual academic progression failure (n, %)	
0	83 (63.4)
1	28 (21.4)
2	12 (9.2)
3	6 (4.6)
4	1 (.8)
5	1 (.8)
Number of assessment failures, Mean (SD)	2.4 (2.48)
Assessment failures (yes, n, %)	89 (64.7)
Perceived Victimisation of Bullying (n, %)	
Never	92 (70.2)
Sometimes	29 (22.1)
Very Often	5 (3.8)
Almost always	2 (1.5)
Always	3 (2.3)
Perceived Victimisation of Cyberbullying (n, %)	
Never	105 (80.2)
Sometimes	17 (13)
Very Often	5 (3.8)
Almost always	1 (.8)
Always	3 (2.3)
Classroom behaviour (n, %)	
Very balanced	46 (35.1)
A bit balanced	46 (35.1)
Nor balanced nor disturbing	17 (13)
A bit disturbing	17 (13)
Very disturbing	5 (3.8)
Social Interactions (n, %)	
Very sociable	71 (54.2)
A bit sociable	37 (28.2)
Nor sociable nor withdrawn	14 (10.7)
A bit withdrawn	6 (4.6)
Very withdrawn	3 (2.3)
Substance Use (n, %)	
I drink Alcohol and/or smoke cigarettes	11 (8.4)
I do not drink alcohol nor smoke tobacco but have tried before	28 (21.4)
I use other substance or legal highs	3 (2.3)
I do not use other substances but have tried them at least once	14 (10.7)
I have never tried any kind of substances	75 (57.3)
Weekly hours of Internet usage (n, %)	
Up to 5 hours	50 (38.2)
Between 5 and 10 hours	34 (26)
Between 11 and 15 hours	13 (9.9)
Between 16 and 20 hours	12 (9.2)
More than 20 hours	22 (16.8)

Profile of Young Students with IA in the Sample

According to the mean comparisons tests for independent samples that were performed (Table 2), ownership of a portable device with Internet access and loneliness were the only variables that had a significant effect on IA. Therefore, those who owned a portable device with Internet access had significantly higher levels of IA compared to those who did not possess one (*t*[65.49]

= 2.168, p = .03). Additionally, the effect size observed was medium (d = 0.42). Results also showed that severely lonely students displayed higher levels of IA than those who were not lonely (t[12.07] = 3.765, p < .001), and the observed effect was large (d = 0.82). Weekly hours of Internet usage also had a significant effect on IA (H[4] = 33.011, p < .001). Post-hoc pairwise comparisons with adjusted p-values showed there were significant differences in terms of addiction levels between students that surfed on the Internet for up to five hours per week, compared to those that surfed between five and ten hours per week (p < .001), as well as those that surfed more than 20 hours per week (p < .001).

The correlational analyses (Table 3) revealed statistically significant associations between IA and (i) weekly hours of Internet usage (r_s[131] = .459, p < .001), (ii) loneliness (r[131] = .247, p = .004), (iii) social loneliness (r[131] = .273, p < .001), (iv) ownership of a portable device with Internet access (r_{pb}[131] = -.195, p = 0.025), (v) increased subjective self-perceived victimisation of bullying (r[131] = .224, p = .010) and cyberbullying (r[131] = .295, p = 0.001), and (vi) disturbed classroom behaviour (r[131] = .242, p = .005). The coefficient of determination (R^2) for these variables were calculated in order to ascertain the amount of shared variability between them. In this case, IA shared from small to moderate percentages of variability with weekly hours of Internet usage (21.1%), loneliness (6.1%), social loneliness (7.5%), ownership of a portable device with Internet access (3.8%), increased subjective self-perceived victimisation of bullying (5.0%) and cyberbullying (8.7%), and disturbed classroom behaviours (5.9%).

Table 3. Bootstrapped1 correlation matrix with Bias corrected accelerated 95% confidence interval between Internet addiction and the study variables.

Measure	Internet Addiction	BCa 95% CI	R2
WHOIU	.459**	.295, .598	.211
Loneliness	.247**	.085, .403	.061
Social Loneliness	.273**	.097, .437	.075
OPDWIA	-.195*	-.353, -.022	.038
PVOB	.224**	.018, .394	.050
PVOCB	.295**	.073, .482	.087
Disturbed Classroom behaviour	.242**	.049, .415	.059
Gender	-.003	-.169, .169	-
Age	-.008	-.185, .192	-

Abbreviations: WHOIU: Weekly hours of Internet usage; OPDWIA: Owning a portable device with Internet access; PVOB: Perceived Victimisation of Bullying; PVOCB: Perceived Victimisation of Cyberbullying.
1. Bootstrap results are based on 1000 bootstrap samples.
* Correlation is significant at .05.
** Correlation is significant at .01.

IA predictors: Stepwise Multiple Regression

Based on previous theoretical assumptions and the findings from the correlational analyses, gender, age, hours of weekly Internet usage, classroom behaviour, and loneliness were used in a non-hierarchical stepwise multiple regression analysis to predict IA. The prediction model contained three out of the five predictors included, and was reached in three steps with gender and age being removed from the model since they did not statistically predict IA in the present sample. Furthermore, the model with the three predictors (i.e., weekly Internet usage, loneliness, and classroom behaviour) was statistically significant, (F[3, 127] = 155.871, p < .001), and accounted for approximately 26% of the variance of IA (R^2 = .260, Adjusted R^2 = .243).

IA was primarily predicted by longer hours of Internet usage, and to a lesser extent by higher levels of loneliness, and disturbed classroom behaviours. The raw and standardized regression coefficients of the predictors together with their correlations with IA, their squared semi-partial correlations, and their structure coefficients are shown in Table 4. Weekly Internet usage received the strongest weight in the model followed by loneliness and classroom behaviour. With sizeable correlations between the predictors, the unique variance explained by each of the variables indexed by the squared semi-partial correlations, was relatively high: weekly Internet usage, loneliness, and classroom behaviour uniquely accounted for approximately 14.1%, 5.4%, 5.2% of the variance of IA. Additionally, weekly Internet usage, loneliness, and classroom behaviour each contributed 37.7%, 23.3%, and 22.8% respectively of the total variability of IA when holding all

Table 2. Independent samples t tests for mean comparison of Internet Addiction and effect sizes.

Variable	Category	*n*	Mean	SD	SE	F	t	df	*p*	Cohen's d
Gender	Masculine	63	64.63	14.78	1.86	.400	.037	126.94	.97	
	Feminine	68	64.54	17.05	1.70					
OPDWIA	Yes	92	66.40	13.67	1.43	1.076	2.168	65.49	**.03**	0.42
	No	39	60.30	15.15	2.43					
Hobby Engagement	Yes	52	63.71	14.47	2.01	.012	-.566	108.52	.57	
	No	79	65.16	14.38	1.61					
ACPF	Yes	47	63.64	14,85	2.17	.557	-.556	91.35	.58	
	No	84	65.12	14.12	1.54					
Assessment Failures	Yes	89	64.74	14.35	1.52	.133	-.179	79.65	.85	
	No	42	64.26	14,51	2.24					
Loneliness	Yes	11	79	13.22	3.99	.135	3.765	12.07	**<.01**	0.82
	No	120	63.26	23.75	1.26					

Abbreviations: **ACPF**: Annual academic progression failure; **OPDWIA**: Owning a portable device with Internet access.

Table 4. Stepwise Regression Results

Model	b	SE-*b*	Beta	Pearson *r*	sr^2	Structure Coefficient
Constant	45.139	3.217				
Weekly Internet Usage*	3.635	.737	.377	.392	.141	.769
Loneliness*	1.920	.630	.233	.247	.054	.484
Classroom behaviours*	2.836	.950	.228	.242	.052	.475

Note. The outcome (i.e., dependent variable) was Internet Addiction. $R^2 = .260$, Adjusted $R^2 = .243$. sr^2 is the squared semi-partial correlation.
*$p < .01$.

other independent variables present in the model constant as given by the obtained standardised beta weights for the present model.

The raw regression coefficients indicated the predicted change in the outcome (i.e., IA) for every unit increase in that predictor. Weekly Internet usage was associated with a partial regression coefficient of 3.635, and means that for every additional point within this variable, there would be an expected increase of 3.64 points on IA levels. For loneliness, every additional point in this variable leads to an expected increase 1.92 points on IA levels, while every additional point in classroom behaviour leads to an expected increase of 2.84 points on IA levels.

Discussion

The present study sought to answer three important research questions. The first question investigated whether IA poses a problem in a sample of Portuguese school children and adolescents. The findings suggest that IA exists in the educational setting and has a relatively high prevalence rate within the sample observed. More specifically, approximately 13% (n = 17) of the total sample appeared to be 'severely addicted' to the Internet as measured by the IAT. This rate mirrors those reported elsewhere (Anderson, 2001; Koronczai et al., 2011; Liświnko, Krajewska-Kułak & Łukaszuk, 2011; Lin, Ko & Wu, 2011; Niemz et al., 2005). Additionally, it was found that 8.4% of the sample (n = 11) also appeared to be 'severely lonely'.

In relation to the second research question, a trend within the sample was observed in terms of IA. Participants displaying high levels of IA were more likely to (i) own a portable device with Internet access, (ii) use the Internet for longer weekly hours, (iii) be lonely and socially lonely, (iv) perceive themselves as bullying and cyberbullying victims in the educational setting, and (v) report more 'disturbing' classroom behaviour.

Previous studies have investigated possible underlying factors associated with IA (Cooper, 1998; Young, Cooper, Griffiths-Shelley, O'Mara & Buchanan, 2000). According to Cooper (1998), accessibility, affordability, and anonymity play an important role in the development of IA. In light of this, it is not surprising that students that reported owning a portable device with Internet access and surfing for longer hours displayed higher levels of IA. This is because these internet-enabled devices increase online accessibility and in some cases lead to overexposure to the Internet – that in turn may facilitate IA. A recent study (Harwood, Dooley, Scott & Joiner, 2014) supports this as strong associations were found between smart-device involvement and IA as measured by the IAT in a sample of 274 Internet users. Predictably, IA was associated with higher weekly hours of Internet use, and this finding also mirrors findings from other similar studies (Bakken, Wenzel, Götestam, Johansson & Øren, 2009; Caplan, Williams & Yee, 2009; Chou & Hsiao, 2000; Kittinger, Correia & Irons, 2012; Tonioni et al., 2012; Wei, Chen, Huang & Bai, 2012).

In relation to the association between IA and loneliness, studies have consistently reported links between high levels of Internet use, IA, and loneliness (Kandell, 1998; Kim, LaRose & Peng, 2009; Kraut et al., 1998; Lemmens, Valkenburg & Peter, 2009; Moody, 2001; Yao & Zhong, 2014). A possible implication of this association is that lonely Internet addicts may find the quick boost produced by the mood-altering online experiences very enjoyable and thereby are likely to repeat the experience again (Cooper, 1998), thus perpetuating the extent of Internet's deleterious effects in their lives. Nevertheless, the findings in the present study linking IA and loneliness appear to be in line with the aforementioned studies. However, the present findings do not corroborate those reported by Hardie and Ming (2007) who found in an online sample of 96 adults that Internet addicts as measured by the IAT, appeared to be more emotionally lonely but not socially lonely. In relation to the few studies examining IA and bullying (Guan & Subrahmanyam, 2009; Wood, 2008) or cyberbullying (Eksi, 2012; Guan & Subrahmanyam, 2009), none of these empirically assessed the relationships and interactions between these variables.

Notwithstanding these gaps in the literature, previous research suggested that repeated school-based offline bullying (Juvonen & Gross, 2008), computer proficiency, and increased time spent online (Hinduja & Patchin, 2008; Smith et al., 2008) were associated with a heightened risk for cyberbullying. Therefore, these links could partially explain some of the associations found in the present study. Irrespective of that, the findings linking victimisation of bullying and cyberbullying with IA warrants further investigation as the more prevailing concern for these behaviours is the deleterious effects that victimisation has on the mental, emotional, and social development of its victims (Guan & Subrahmanyam, 2009). On the other hand, it could be speculated that the Internet might act as a coping

mechanism for these students, therefore partially explaining their increased levels of IA.

Another novel aspect of this study was the association between IA and disturbed classroom behaviour. Participants reporting having disturbed classroom behaviours scored higher on the IAT. To the author's knowledge, no previous study investigated these two specific variables. Therefore, the present findings should be corroborated by future research examining the characteristics of young students' educational behaviour regarding IA.

Overall, the results from the second research question [i.e., what is the profile of individuals scoring highly on the IAT compared to those that score lower in terms of socio-demographic factors, problematic behaviours and loneliness?] might prove insightful for professionals working in the educational context as it has a potential to help them better understand some of the characteristics associated with IA.

Another aim of the present study was to provide a set of variables that could constitute as a model for predicting IA in an educational context. Moreover, the results from the multiple regression analysis yielded a model with three optimal predictors (i.e., weekly Internet usage, loneliness, and classroom behaviour) that accounted for approximately 26% of the variance of IA. Weekly Internet usage was the best predictor, followed by loneliness and classroom behaviour.

These findings partially corroborate the cognitive-behavioural model of pathological Internet use (Davis, 2001) as loneliness could play an important role in IA as a distal cause. This is because when lonely people are not successful in their offline interactions, they attribute their failure as due to their lack of social skills, in turn increasing IA. Loneliness may also directly influence preferences for online interaction, since lonely individuals feel they can interact with others and express themselves better online than offline (McKenna, Green & Gleason, 2002). The results of the present study demonstrated that weekly Internet usage, loneliness, and classroom behaviour contributed 37.7%, 23.3%, and 22.8% respectively of the total variability of IA.

In sum, the present findings highlight the importance and need to further study IA in earlier ages and in different contexts as most of the studies carried out in this area usually survey older adult samples in non-specific contexts. As previously noted by some authors (Ang, Chong, Chye & Huan, 2012), there is limited research on this topic using adolescent samples as most of the studies examining the relationship between loneliness and IA has focussed on undergraduate students rather than adolescents.

As with any other studies, the present study is not without its limitations. Firstly, the sample size should be taken into account when it comes to generalising the results to the normative population. Secondly, the limitations of self-report methodologies (e.g., response bias, social desirability, etc.) should be taken into account as they might interfere with the strength of our results. Thirdly, bullying, cyberbullying, and classroom behaviours were assessed by non-standardised psychometric tools, therefore the strength of the associations between these variables and IA should be cautiously interpreted.

As a concluding note for future studies aiming to investigate IA in the educational context, it is suggested that the use of larger and more representative samples be employed and also the use of standardised psychometrically sound tools to assess the interplay between the variables, as opposed to the assessment of constructs by means of self-devised questions. It is hoped that this study can help professionals in the educational field to better understand and prevent IA among school children and adolescents given that previous research has tended to focus on adult samples.

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