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PRESENCE OF AUTISTIC TRAITS AND SOCIAL SUPPORT AMONG INDIVIDUALS IN STEM AND NON-STEM OCCUPATIONS

PRISUSTVO AUTISTIČNIH KARAKTERISTIKA I SOCIJALNE PODRŠKE KOD OSOBA ZAPOSLENIH U STEM I NE-STEM OBLASTIMA

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ABSTRACT

Autistic traits and social support are important factors influencing social functioning and well-being. The aim of this study was to examine the presence of autistic traits and analyze perceived social support across three domains—family, friends, and community—among individuals engaged in Science, Technology, Engineering and Mathematics – STEM and non-STEM occupations. A total of 206 participants of varying age and gender were surveyed. Data were collected using standardized scales measuring autistic traits and social support, and statistical analyses included nonparametric tests and correlation analyses. Results indicated that individuals in STEM fields exhibited higher levels of autistic traits compared to those in non-STEM fields. Among participants outside STEM occupations, males demonstrated significantly higher autistic traits than females. A significant negative correlation was found between autistic traits and perceived social support, indicating that higher levels of autistic traits were associated with lower perceived support. Additionally, in the STEM subgroup, increased time spent on social media was linked to decreased perceived social support from family and friends, while overall perceived social support showed a slight increase with more social media use, suggesting complex interactions within digital social environments. These findings highlight the variability in social support experiences related to autistic traits and occupational contexts, emphasizing the need for tailored interventions and further research on the impact of digital media on social relationships.

Keywords: autistic traits, social support, STEM occupations, social media, occupational groups.

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SAŽETAK

Autistične karakteristike i socijalna podrška predstavljaju važne faktore koji utiču na socijalno funkcionisanje i blagostanje. Cilj ovog istraživanja bio je da se ispita prisustvo autističnih karakteristika i analizira percipirana socijalna podrška u tri domena – porodica, prijatelji i zajednica – među osobama zaposlenim u oblastima nauke, tehnologije, inženjerstva i matematike (STEM) i onima izvan tih oblasti (ne-STEM). U istraživanju je učestvovalo ukupno 206 ispitanika različitog uzrasta i pola. Podaci su prikupljeni pomoću standardizovanih skala za merenje autističnih karakteristika i socijalne podrške, a statistička obrada uključivala je neparametarske testove i korelacione analize. Rezultati su pokazali da osobe koje rade u STEM oblastima ispoljavaju viši nivo autističnih karakteristika u poređenju sa osobama iz ne-STEM oblasti. Među ispitanicima koji nisu zaposleni u STEM oblastima, muškarci su pokazali značajno više autističnih karakteristika u odnosu na žene. Utvrđena je negativna korelacija između autističnih karakteristika i percipirane socijalne podrške, što ukazuje da viši nivo autističnih karakteristika prati niži nivo doživljene socijalne podrške. Pored toga, u STEM podgrupi je primećeno da je veće vreme provedeno na društvenim mrežama povezano sa nižim nivoom percipirane socijalne podrške od strane porodice i prijatelja, dok je ukupni doživljaj socijalne podrške rastao sa većom upotrebom društvenih mreža, što ukazuje na složene odnose unutar digitalnog socijalnog okruženja. Ovi nalazi ističu varijabilnost iskustava socijalne podrške u odnosu na autistične karakteristike i profesionalni kontekst, naglašavajući potrebu za prilagođenim intervencijama i daljim istraživanjima uticaja digitalnih medija na socijalne odnose.

Ključne reči: autistične karakteristike, socijalna podrška, STEM zanimanja, društvene mreže, grupe zanimanja.

INTRODUCTION

Autistic traits that can also be present in the typical population most commonly manifest as difficulties in socialization (Dymond et al., 2017), in the form of fewer social interactions (Jackson et al., 2018), and in establishing and maintaining social relationships with peers (White et al., 2016). These socialization difficulties consequently affect obtaining and retaining employment and achieving higher education due to challenges in adaptation (Cederlund et al., 2008; Shmulsky et al., 2019; Trevisan & Birmingham, 2016).

Individuals with autistic traits most often choose occupations in the technical-technological and natural-mathematical fields (Science, Technology, Engineering, and Mathematics – STEM) (Austin, 2005; Baron-Cohen et al., 2001, 2007; Hoekstra et al., 2008; Pisula et al., 2013; Roelfsema et al., 2012; Ruzich et al., 2015; Wakabayashi et al., 2006; Wei et al., 2013, 2017). It is believed that they more frequently opt for STEM professions due to their developed analytical abilities (Baron-Cohen, 2009). There is a higher prevalence of males among individuals enrolling in STEM-related university programs, which has also been established as more common among populations with autistic traits (Ruzich et al., 2015; Turner et al., 2021). Furthermore, if individuals with autistic traits choose STEM occupations, research shows that they achieve higher academic success compared to those who have chosen other types of professions (Wei et al., 2014). Some authors suggest that deficits in

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socialization domains are compensated over time by the time spent on computers (Cheryan et al., 2017), while others argue that they spend considerable time on computers due to a lack of social relationships and therefore choose occupations of this type (Nicholls et al., 2007). However, social support is highlighted as one of the most important protective factors for the prevention of all mental illnesses (Abdullah et al., 2014; Cohen & Wills, 1985; Harandi et al., 2017; Reblin & Uchino, 2008; Ozbay et al., 2007; Uchino et al., 2018). Social support is a key factor for individuals' mental health and well-being (Saltzman et al., 2020; Simon et al., 2021). Nevertheless, how social support varies between individuals in STEM and non-STEM occupations has not been sufficiently researched.

Social support can be defined as relying on close others in stressful situations that exceed an individual's adaptive mechanisms and reflects the individual's perception of their own social integration (Thoits, 1995). It encompasses the subjective experience of the quality of interpersonal relationships, as well as the subjective perception of the help an individual can receive or actually receives from people in their environment (Karačić, 2012). Social support, which can be provided in various domains such as family, friends, and community, is an important factor for an individual's adaptation and functionality, and most instruments measuring its level include support from these sources (Heitzmann & Kaplan, 1988; Walsh, 2006). As with individuals in the typical population, social support can have a significant impact on individuals with autistic traits, as it contributes to improved overall quality of life (Leader et al., 2021), as well as to the reduction of mental health problems (Renty & Roeyers, 2007). Therefore, understanding these relationships is crucial for enhancing support for these individuals.

So far, no specific interventions or programs have been developed to enhance social support among STEM professionals with autistic traits. Additionally, data on the influence of factors such as gender, age, and digital habits on the level of social support are lacking. Further research is needed to examine social support across different domains among individuals in STEM and non-STEM occupations. Understanding these variables may contribute to the development of targeted social support and improved quality of life.

The aim of this study is to examine the presence of autistic traits and analyze social support in three domains (family, friends, community) among individuals engaged in STEM and non-STEM occupations.

MATERIAL AND METHODS

Sample of participants

The sample included a total of 206 participants, of whom 92 (44.7%) belong to STEM occupations, and 114 (55.3%) to non-STEM occupations. Among the participants in the STEM group, 49 (53.3%) are male, while 43 (46.7%) are female. In the non-STEM group, there are 27 males (23.7%) and 87 females (76.3%). In the STEM group, 26 participants (28.3%) are aged 18–24 years, 42 (45.7%) are between 25 and 39 years old, 7 (7.6%) are in the 40–55 age group, and 17 (18.5%) are older than 55 years. Among those not in STEM occupations, 15 (13.2%) are in the 18–24 age group, 50 (43.9%) are between 25 and 39 years old, 26 (22.8%) are between 40 and 55 years old, and 23 (20.2%) are older than 55 years. In

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the STEM group, 23 participants (25.0%) use a computer up to three hours daily, 23 (25.0%) between four and five hours, 21 (22.8%) between six and eight hours, and 25 (27.2%) more than eight hours. In the non-STEM group, 32 participants (28.1%) use a computer up to three hours daily, 30 (26.3%) between four and five hours, 34 (29.8%) between six and eight hours, and 18 (15.8%) more than eight hours. In the STEM group, 46 participants (50.0%) use social networks up to one hour daily, 35 (38.0%) between two and three hours, and 11 (12.0%) more than three hours. In the non-STEM group, 57 participants (50.0%) use social networks up to one hour daily, 41 (36.0%) between two and three hours, and 16 (14.0%) more than three hours.

Method of conducting research

The study was conducted as a quantitative study. The final version of the questionnaire distributed to participants, which consisted of collecting socio-demographic data as well as the specified instruments, was set up on the online platform *Google Forms*. The web link was sent to participants through social media groups whose members included them (*Facebook*, *WhatsApp*, *Viber*), with the researchers contacting their acquaintances and asking them to complete the questionnaire and to forward it to their acquaintances who belong to the targeted participant categories.

Measuring instruments

To determine the presence of autistic traits in the sample participants, the Autism-Spectrum Quotient (AQ, Baron-Cohen et al., 2001) scale was used, designed for application in individuals over 16 years old. The instrument is a self-report measure and is applied to individuals with average intellectual functioning. The instrument consists of 50 items, grouped into five domains: social skills, attention switching, attention to detail, communication, and imagination. For each item, participants provide responses indicating their level of agreement with the statements using a four-point Likert-type scale (1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, 4 = strongly disagree). Responses indicating the presence of autistic traits are scored with one point. The maximum score participants can achieve is 50, with a higher score indicating a greater presence of autistic traits.

The authors of the instrument emphasize (Baron-Cohen et al., 2011, 2006) that any score above 32 points indicates the presence of autistic traits, while more recent research (Woodbury-Smith et al., 2005) suggests that any participant who scores above 26 points shows the presence of autistic traits.

Previous research has found that the overall reliability of the instrument ranges from questionable to good ($\alpha = .67 – .81$) (Hoekstra et al., 2008; Hurst et al., 2007; Lepage et al., 2009). When reporting on the reliability of the instrument, the authors of the scale (Baron-Cohen et al., 2001) assessed only the reliability of the individual subscales and found that the reliability of the social skills subscale was acceptable ($\alpha = .77$), the attention switching subscale was questionable ($\alpha = .67$), the attention to detail subscale also questionable ($\alpha =$

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.63), as well as the communication (α = .65) and imagination (α = .65) subscales. Other authors (Hoekstra et al., 2008; Hurst et al., 2007; Lepage et al., 2009), when examining the reliability of these subscales in their own studies, found that the reliability of the social skills subscale ranged from questionable to acceptable (α = .64 – .75), the attention switching subscale ranged from unacceptable to questionable (α = .42 – .62), the attention to detail subscale ranged from low to questionable (α = .58 – .63), the communication subscale ranged from unacceptable to acceptable (α = .49 – .70), while the imagination subscale ranged from unacceptable to low (α = .34 – .52).

In our study, the reliability of the entire instrument, which consists of 50 items, was acceptable (α = .74), while the reliability of the individual subscales, as in previous research, ranged from unacceptable to questionable. For this reason, statistical analyses were conducted only on the total score of the instrument. Specifically, the "Social Skills" subscale, which consists of 10 items, achieved a reliability coefficient of α = .68, while the "Attention Switching" subscale, also with 10 items, showed somewhat lower reliability (α = .46). The "Attention to Detail" subscale had a Cronbach's alpha coefficient of α = .61, while the "Communication" subscale yielded a coefficient of α = .59. The lowest level of internal consistency was recorded for the "Imagination" subscale, with a Cronbach's alpha coefficient of α = .38.

To assess participants' perception of social support, the Social Support Index (SSI, Wilcox, 1981) was used. This instrument consists of 17 items, grouped into three subscales, which refer to the presence of social support from family (example item: "The things I do for members of my family and the things they do for me make me feel part of this very important group"), the presence of social support from community members (example item: "People around here know they can get help from the community when they are in trouble"), and the presence of social support from friends (example item: "I have friends who let me know they value who I am and what I can do"). All responses are provided on a five-point Likert-type scale, where participants are asked to indicate their level of agreement with the given statements (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). Some items are reverse scored. The maximum score on the instrument is obtained by summing the participants' responses to all items, and it totals 85 points, with a higher score indicating a greater level of social support. Any score below 51 points indicates insufficient social support. The maximum scores for the subscales measuring social support from family and community are 30 points, with scores below 18 indicating insufficient family or community support. The maximum score on the subscale measuring social support from friends is 25 points, with scores below 15 indicating insufficient support from friends. The instrument was translated into Serbian using the double-blind translation method.

The author of the scale (Wilcox, 1981) reported that the overall reliability of the instrument was high (α = .92), while other authors found it to range from acceptable to good (α = .72 – .83) (Distelberg et al., 2014; Heitzmann & Kaplan, 1988; McCubbin et al., 1996; Walsh, 2006). When examining the reliability of the individual subscales, Distelberg and colleagues (Distelberg et al., 2014) found that the reliability of the subscale measuring family social support was acceptable (α = .76), as was the reliability of the subscale measuring community

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support (α = .79), while the reliability of the subscale measuring support from friends was good (α = .81).

The reliability of the instrument as a whole and its subscales in our study proved to be good and acceptable. The overall instrument, which includes 17 items, demonstrated high reliability with a Cronbach's alpha coefficient of α = .88, indicating good internal consistency. The "Family Social Support" subscale, consisting of 6 items, showed good reliability (α = .85), while the "Friend Social Support" subscale, also with 6 items, demonstrated acceptable internal consistency (α = .77). The "Community Member Social Support" subscale, which contains 5 items, had an alpha coefficient of α = .79, also indicating an acceptable level of reliability. These results confirm that the instrument is adequate for assessing various aspects of social support within the examined sample.

In addition to the instruments mentioned, socio-demographic data were also collected from the participants. These included participants' gender, age, affiliation with a STEM profession, the amount of time spent daily on a computer or phone, as well as the amount of time spent daily on social media.

Data processing methods

Data processing was performed using the SPSS software for statistical data analysis (*SPSS IBM 23 – Statistical Package for the Social Sciences*). To determine the reliability of the instruments and their subscales, Cronbach's alpha coefficient was used. The Shapiro-Wilk test was applied to assess deviations from normality in the distribution of numerical variables. Participants' scores from both subsamples on the applied instruments and their subscales were presented using descriptive statistical measures. Differences in participants' scores on the instruments and their subscales between dichotomous categorical variables (gender and STEM affiliation) were determined using the Mann-Whitney U test, while differences between polytomous categorical variables (age groups, average daily time spent on the computer, and average daily time spent on social media) were assessed using the Kruskal-Wallis test. To determine the correlation between the applied instruments, Spearman's rho correlation analysis was used.

RESULTS AND DISCUSSION

To assess deviations of the empirical distribution of measures from normality in numerical variables, the Shapiro-Wilk test was used. As shown in Table 1, the empirical distribution of measures deviates from a normal distribution for all variables, which implies the use of non-parametric statistical tests in further data analysis. Additionally, Table 1 presents the distribution of scores achieved by participants from the subsamples on the applied instruments and their subscales.

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Table 1. Subsample scores on the used instruments

Scales and subscales	STEM profession								Shapiro-Wilk test	
	No (N = 114)				Yes (N = 92)					
	Min	Max	M	SD	Min	Max	M	SD	W	p
AQ	5	41	15.52	6.25	7	30	16.10	5.15	.96	< .001
SSI	22	85	66.25	11.53	32	85	65.33	11.37	.87	< .001
Family social support	7	30	24.35	5.34	11	30	24.23	5.19	.97	< .001
Friend social support	7	25	20.85	3.64	6	25	20.58	4.03	.97	< .001
Community member social support	6	30	21.05	4.90	8	30	20.52	5.05	.87	< .001

Individuals in STEM occupations achieve higher average scores on the scale measuring autistic traits compared to participants not engaged in STEM professions. Our results are not surprising, considering that many previous studies have found that members of STEM occupational groups tend to score higher on instruments assessing autistic traits (Greenberg et al., 2018; Griffiths et al., 2022; Josey, 2022; Richards et al., 2020, 2022; Ruzich et al., 2015; Turner et al., 2021).

Individuals not engaged in STEM occupations have higher average scores on the overall social support scale, as well as in each domain of social support, compared to those employed in STEM fields. This result indicates that non-STEM professionals perceive a higher level of social support compared to those working in STEM areas. Higher average scores across all domains of social support suggest that individuals outside STEM professions have stronger or more accessible support networks, which may be related to the nature of their professional and social environments (Vekkaila et al., 2018). It is possible that STEM occupations are more often associated with individual work, less focus on interpersonal relationships, or work in highly technical and competitive settings that do not encourage the development of broad social networks (Su & Rounds, 2015). These findings open avenues for further research into the role of professional environments in shaping perceptions of social support and its impact on individuals' psychological well-being.

Table 2 presents the results of the Mann-Whitney U test regarding differences between participants from different occupational groups in terms of the level of social support, as well as the individual domains of the scale.

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Table 2. Dichotomous categorical variable (STEM occupation status) and level of social support, including individual scale domains

Scale and subscales	STEM profession	N	Mdn	IQR
SSI	Yes	92	67.00	15
	No	114	68.00	15
Family social support	Yes	92	25.50	6
	No	114	26.00	6
Friend social support	Yes	92	22.00	5
	No	114	22.00	5
Community member social support	Yes	92	21.00	8
	No	114	21.00	7

The results of the Mann-Whitney U test indicate that there is no statistically significant difference between participants belonging to the specified occupational group and those who do not in terms of social support (U = 5010.50, p = .58). Similarly, there are no statistically significant differences in social support received from family (U = 5125.50, p = .78), friends (U = 5151.50, p = .83), or community members (U = 4961.50, p = .51).

One possible reason for the lack of a statistically significant difference in the perception of social support between participants engaged in STEM occupations and those who are not may be the fact that the occupation itself does not necessarily influence the quality and intensity of support experienced by an individual (Brough & Pears, 2004). Social support often stems from stable and long-term relationships, such as family and close friends, which are not directly related to the professional environment (Turner & Turner, 2012). Additionally, increasing digital connectivity and the availability of online communities may enable a similar level of social interaction and support regardless of profession (Courtois & Verdegem, 2016). It is also possible that individuals employed in STEM fields, despite stereotypes about lower social engagement, develop effective and functional social networks that meet their needs, albeit in different ways (Korte et al., 2019). Another factor that may influence the results obtained is the diversity within the professional groups themselves — both STEM and non-STEM fields include a wide range of occupations in our sample with varying degrees of interpersonal interaction, which may contribute to the equalization in the perception of social support.

A potential cause of the low level of social support from family members is the prolonged period of acceptance by immediate family members (Kapp, 2018), as well as the lack of social support provided by extended family members to parents of children with autistic traits (Kuru & Piyal, 2018). Additionally, due to more pronounced deficits in social communication domains, these individuals are less accepted by their peers (Burnette et al., 2005; Kang et al., 2020), as well as by community members (Richards, 2012). Similar findings were reported by

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a group of authors in a more recent study (Lei et al., 2020), showing that mental health problems experienced by individuals with autistic traits are highly negatively correlated with the level of social support they receive from people in their environment, with family members and friends identified as the most important sources of social support (Renty & Roeyers, 2007). Such results are significant because many studies indicate that the presence of social support positively influences all domains of an individual's life (Kapp, 2018; Leader et al., 2021; Renty & Roeyers, 2007).

Table 3 presents the results of the Mann-Whitney U test regarding differences between male and female participants from both subsamples in relation to the autistic traits coefficient.

Table 3. Dichotomous categorical variable (participant gender) and autistic traits

Scale	STEM profession	Gender	N	Mdn	IQR
AQ	Yes	Male	49	16.00	9
		Female	43	15.00	6
	No	Male	27	18.00	10
		Female	87	14.00	6

The results of the Mann-Whitney U test indicate that there is no statistically significant difference between male and female participants engaged in STEM occupations regarding the autistic traits coefficient (U = 1018.50, p = .78). However, participants from the non-STEM subsample show a statistically significant difference by gender (U = 783.00, p = .009), with male participants achieving higher scores on the applied instrument, indicating a greater presence of autistic traits (Mdn = 18.00) compared to female participants (Mdn = 14.00). This aligns with findings suggesting that males in the general population more frequently exhibit traits associated with the autistic spectrum, which may be the result of biological, neurological, or socialization factors (Ruzich et al., 2015; Turner et al., 2021).

Table 4 presents the results of the Mann-Whitney U test regarding differences between male and female participants from both subsamples in terms of the level of social support, as well as the individual domains of the scale.

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Table 4. Dichotomous categorical variable (participant gender) and level of social support, as well as individual domains of the scale

Scale and subscales	STEM profession	Gender	N	Mdn	IQR
SSI	Yes	Male	49	66.00	17
		Female	43	68.00	14
	No	Male	27	63.00	17
		Female	87	68.00	14
Family social support	Yes	Male	49	26.00	9
		Female	43	25.00	6
	No	Male	27	22.00	11
		Female	87	26.00	6
Friend social support	Yes	Male	49	20.00	6
		Female	43	22.00	5
	No	Male	27	20.00	5
		Female	87	22.00	5
Community member social support	Yes	Male	49	20.00	7
		Female	43	21.00	7
	No	Male	27	21.00	5
		Female	87	21.00	7

The results of the Mann-Whitney U test indicate that there are no statistically significant differences between male and female participants engaged in STEM occupations regarding the presence of social support (U = 921.00, p = .30). Similarly, no statistically significant gender differences were found in social support received from family (U = 1029.00, p = .85), friends (U = 915.50, p = .28), or community members (U = 896.00, p = .22). The same situation is observed when examining the results of the subsample of participants not engaged in STEM occupations. Namely, there are no statistically significant gender differences in the overall social support received by participants (U = 983.00, p = .20), nor in social support from family (U = 979.00, p = .19), friends (U = 967.00, p = .16), or community members (U = 1108.50, p = .66).

Considering the aforementioned results, no gender differences were found in either subsample regarding the level of social support received by participants. Our findings contradict previous research, which showed that females perceive receiving more social support than males (Akturk, 2015; Guo et al., 2021). These results suggest that gender does not play a decisive role in the experience of social support within these professional groups. It is possible that men and women, regardless of occupation, are equally capable of building and maintaining support networks, and that in the contemporary social context, gender role differences in seeking and providing social support are increasingly diminishing (Matud et al., 2003). The absence of gender differences across all domains of social support indicates that access to sources of support—such as family, friends, and community—is equally available to both men and women, regardless of their profession.

Descriptive measures relating to differences between various age groups in both subsamples regarding social support are presented in Table 5.

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Table 5. Polytomous categorical variable (age groups) and social support

Scale and subscales	STEM profession	Age group	N	Mdn	IQR
SSI	Yes	18–24	26	61.50	18
		25–39	42	67.50	16
		40–55	7	74.00	11
		>55	17	72.00	15
	No	18–24	15	76.00	12
		25–39	50	65.00	15
		40–55	26	65.50	19
		>55	23	68.00	14
Family social support	Yes	18–24	26	23.00	11
		25–39	42	25.00	6
		40–55	7	27.00	1
		>55	17	28.00	6
	No	18–24	15	27.00	4
		25–39	50	25.00	7
		40–55	26	24.50	9
		>55	23	27.00	7
Friend social support	Yes	18–24	26	20.00	7
		25–39	42	20.50	6
		40–55	7	22.00	3
		>55	17	23.00	5
	No	18–24	15	24.00	4
		25–39	50	21.00	5
		40–55	26	20.00	5
		>55	23	22.00	5
Community member social support	Yes	18–24	26	20.50	8
		25–39	42	21.00	8
		40–55	7	24.00	9
		>55	17	20.00	7
	No	18–24	15	61.50	18
		25–39	50	67.50	16
		40–55	26	74.00	11
		>55	23	72.00	15

The results of the Kruskal-Wallis test show that STEM participants of different age groups do not differ statistically significantly in terms of the overall social support they receive from community members (H = 2.38, df = 3, p = .49). However, STEM participants differ statistically significantly regarding the overall social support they receive (H = 9.96, df = 3, p = .02), with the highest overall social support reported by participants in the 40–55 age group (*Mdn* = 74.00), and the lowest by those in the youngest age group (*Mdn* = 61.50). Furthermore, STEM participants differ statistically significantly in social support received from family (H = 9.21, df = 3, p = .03), where the youngest age group receives the least family support (*Mdn* = 23.00), while the oldest age group receives the most family support (*Mdn* = 28.00). Finally, STEM participants also differ statistically significantly in social support received from friends (H = 10.37, df = 3, p = .01), with the youngest age group

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receiving the least support from friends (*Mdn* = 20.00) and the oldest age group receiving the most (*Mdn* = 23.00).

The results of the Kruskal-Wallis test show that non-STEM participants of different age groups do not differ statistically significantly in terms of the overall social support they receive (H = 6.22, df = 3, p = .10), nor in the social support they receive from family (H = 5.38, df = 3, p = .15), friends (H = 3.78, df = 3, p = .29), or community members (H = 5.24, df = 3, p = .16).

Regarding age, no statistically significant differences were found between participants of different age groups who are not engaged in STEM occupations. However, it was observed that the youngest age group reported the lowest levels of overall social support, as well as support from family and friends, while the oldest participants reported the highest levels of support. Although statistically significant differences were identified among non-STEM participants of different ages, it is important to note that there was a large imbalance in the number of participants across age subgroups within this sample. Specifically, the majority of participants belonged to the youngest age group, while the 40–55 age group was represented by a negligible number of participants. In contrast, the STEM subgroup had a more balanced distribution of participants across age groups, and no statistically significant differences were found among them, suggesting that the observed results may potentially be an artifact.

Results of the Kruskal-Wallis test on the subgroup of participants employed in STEM occupations show that participants who spend different amounts of time on social media do not statistically significantly differ in terms of the social support they receive (H = 2.39, df = 2, p = .30), nor in terms of social support from family (H = 1.92, df = 2, p = .38), friends (H = 4.00, df = 2, p = .14), or community members (H = 0.41, df = 2, p = .82). When examining the subgroup of participants not employed in STEM occupations, the results of the Kruskal-Wallis test indicate that participants who spend different amounts of time on social media statistically significantly differ in terms of overall social support they receive (H = 5.82, df = 2, p = .05), with those who spend the most time on social media during the day having the highest overall social support (Mdn = *68.50*). Additionally, participants not employed in STEM occupations statistically significantly differ in social support received from friends (H = 8.68, df = 2, p = .01), where those who spend the least time on social media during the day have the greatest social support from friends (Mdn = *22.00*). No statistically significant differences were found in this subgroup regarding social support from family (H = 3.07, df = 2, p = .22) or community members (H = 1.59, df = 2, p = .45).

When examining the subgroup of participants employed in STEM occupations, no differences were found between participants regarding the average time they spend daily on computers or phones and social media. However, participants from the subgroup not employed in STEM occupations differ in relation to the average time they spend daily on social media. Participants who spend the most time on social media during the day have the highest level of perceived overall social support, while those who spend the least time on social media perceive that they have the greatest social support from friends. Some authors emphasize that spending a large amount of time daily on computers and social media simulates a feeling of high social support due to a greater number of online interactions (Best et al., 2014; Nabi et al., 2013; Longman et al., 2009).

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Table 6 presents the results of Spearman's rho correlation analysis between the instruments used in the study.

Table 6. Results of Spearman's rho correlation analysis

	1
1. SSI	
5. AQ	-.31*

Note: * p < .001

The results of Spearman's rho correlation analysis indicate a statistically significant negative correlation between the Social Support Index and the Autism-Spectrum Quotient (r_s = -.31, p < .001), where individuals with a higher degree of autistic traits receive less social support.
The obtained result indicates a significant negative correlation between the level of autistic traits and perceived social support, meaning that individuals with more pronounced autistic traits tend to receive less social support. This association can be explained by difficulties in social interaction and communication characteristic of individuals with autistic traits (Dymond et al., 2017; Jackson et al., 2018; White et al., 2016), which may limit their ability to establish and maintain quality and supportive relationships. Individuals with higher Autism-Spectrum Quotient scores often face challenges in understanding and interpreting social cues, which can lead to social isolation or a reduced number of close social contacts (Schuwerk et al., 2019). Such factors may negatively affect the perception of available support within their social environment. This finding aligns with previous research emphasizing the importance of developing supportive networks and interventions aimed at improving social skills in individuals with autistic traits to enhance their psychosocial functioning and quality of life (Hedley et al., 2017).

CONCLUSION

Based on the results obtained in our study, it can be concluded that individuals working in STEM professions exhibit a higher degree of autistic traits compared to those in other occupations. Additionally, it was observed that males not employed in STEM fields show a greater level of autistic traits than females, highlighting the significance of gender differences within this population (U = 783.00, p = .009). Furthermore, it was established that individuals with more pronounced autistic traits generally receive less social support (r_s = -.31, p < .001), emphasizing the importance of targeted social interventions for this group.
Among participants from STEM fields, it was observed that as time spent on social media increases, the perceived level of social support decreases, especially in the domains of support from family (H = 9.21, df = 3, p = .03) and friends (H = 10.37, df = 3, p = .01). Overall social support also decreases with time spent on social media (H = 9.96, df = 3, p = .02). These findings may indicate possible negative effects of excessive digital activity on real social connections, particularly in the closest environment. On the other hand, a positive correlation was also noted between time spent on social media and total perceived social support (H = 5.82, df = 2, p = .05), which may reflect the importance of online networks as sources of support in modern society. However, the decrease in support from friends with increased time

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on social media (H = 8.68, df = 2, p = .01) points to the complexity of this dynamic and the need for further research.

The main limitations of this study relate to the size and unevenness of the sample, particularly regarding socio-demographic variables such as gender, age groups, and affiliation with STEM professions. These limitations may affect the generalizability of the results and suggest the need for future research with larger and more representative samples. Additionally, it would be beneficial to include other factors that may influence social support, such as the quality of interpersonal relationships, mental health, and specific characteristics of digital usage.

Further research could focus on the development and evaluation of interventions aimed at strengthening social support, especially for individuals with pronounced autistic traits and those working in STEM fields. Understanding how digital technologies and online social resources affect the perception and quality of support could contribute to the creation of tailored support and inclusion programs.

In conclusion, our study highlights the importance of considering various factors that influence social support and autistic traits within the context of professional choice and digital habits. These findings can serve as a basis for future studies and applications in clinical practice and social policies aimed at improving the quality of life of affected populations.

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