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The account of teaching qualitative research method in accounting program in Brazil

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This study investigates the reflexive relationship between the challenges encountered during the development and teaching of the qualitative research method (QARM) program and the stories of PhD students about their experiences with the course. The study is based on a number of pedagogical issues drawn from postgraduate students combined with an auto-ethnographic account of parallel experiences of teaching qualitative research methods, which form the basis of our methodology and analysis. The findings show that the main aching issue in surmounting the development of qualitative research is resilience, because breeding interpretive research becomes difficult in a conservative environment. Findings also show that innovative hands-on methods need to be used to teach QARM since kick-starting data building, exercising the interviewing process, and data analysis are the cornerstones of the methodology. Teaching QARM to students who have been brought up in a conservative accounting program may be pleasing since their discoveries attract enthusiasm. Overall, the complementarity of quantitative and qualitative methods in the findings suggests a continuous debate to strengthen the relationship in further studies.

Key words: Qualitative research, qualitative research method, accounting program, auto-ethnography.

INTRODUCTION

The story of accounting programs that embrace qualitative research methods is scarce, even in this era where mainstream information produced for external users is being critiqued for a lack of interpretive reflexivity and positioning.

Mainstream accounting scholarship has been generally described as embracing predominantly quantitative methods (de Villiers et al., 2019). Perhaps it is due to the accounting's umbilical connection to investment decision-making, as well as the relationships with disclosure and standards. As a result, contributions to the literature based on qualitative research and teaching experiences from a conservative program are becoming increasingly

important. In this regard, an argument that surfaces is: how are the faculties facing the task of implementing and teaching qualitative research methods in a purely conservative environment? This is partially an unanswered question that kindles the development of a qualitative course that mainly draws on the interpretivist paradigm in the accounting program that is traditionally positivist, toeing auto-ethnographic approach.

In the same line of thought, accounting research has been questioned for their narrow approach for primarily emphasizing the capital market and later the rest. Accounting research has for a long time emphasized positivism, valuing empirical observation and quantitative

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research (Jack L et al 2013). This type of research was prevalent in accounting journals; however, it is unable to address complex social ramifications of accounting (Baker and Bettner, 1997). Until 1988, the accounting research standard evoked the idea of describing “something as it is”, and “looking at the facts” in a neutral way (Jack L et al 2013).

This epistemological conception excludes a range of perceptions of accounting from human understanding. This, therefore, concludes for the gap created by the mainstream research. Accounting history has avoided engaging this wider literature and maintained a methodological naivety by excessive internal self-referencing, an over-dependence on influential editorial oracles, and a revivalist preoccupation with “The Great men” of accounting (Sy and Tinker, 2005: 3).

We have moved a long way from the position where students were only taught quantitative research techniques (Humphreys, 2006). This implies that people must seek new ways of approaching teaching and learning that are not only economically viable and educationally efficient, but also interactive and engaging for both students and teachers (Case and Selvester, 2000).

In all, augmenting for additional studies Steccolini (2022) observed that it may be useful to provide full accounts on the practical ways in which qualitative accounting scholars prove and assess research quality, to complement the conceptual debate with experiences from the field, to further raise awareness in our communities on everyday practices of research and further identify possible areas of improvement.

This study has a political strategy aimed to stimulate improvement within the pedagogical spectrum, policymakers, and academic debates. This is not a one-day change, but a rethinking of the paradigm of accounting information for either internal or external users based on an interpretive perspective which is especially important in this era of big data and artificial intelligence.

In fact, at this moment, the contribution of the paper does not just spell the concerns of the constructivist researchers and the critical perspective researchers, there is a wave of knowing the ‘so what’ of the prior studies based on proper reflexivity. Therefore, this ties to the extensive literature on differences between qualitative and quantitative accounting research and on ‘political’ tensions between these perspectives.

As a result, it is expected that the findings of this study will aid in the development of qualitative course content as well as contributions to qualitative research schemes and new and expanding theories.

The context

After barely four decades in academia and as an associate professor, in order to choose to teach a new

course, it has to be pleasing, palatable and add relevant impact to the community at large, and as human being also contribute to the sustenance of ego. After all, as a professor your presence needs to be felt in the upbringing of your disciples. In effect, there is the intention of increasing repertoire of research methods after developing research in mainstream for more than three decades. This eventually led to the choosing of Qualitative Research Methods (QARM) in accounting.

The university where the program was developed is arguably one of the topmost in Brazil and Latin America as many ranking institutions would construe it. This invariably portrays the extension of the adoption of this methodology in as much as this institution sets the pace in various ways.

Importantly, the discipline has been an academic dream of the mentor since the partial shift from just positivist research. So, as soon as he joined the school, he saw the opportunity for its implementation. The sooner the proposal was submitted for credentialing at the Graduate Program Committee, the later the rejection came, much to one’s amazement. The baseline for the project being overruled was that the offering professor had not taught the course before in previous programs. Therefore, the committee required a collaborator for a joint offering from other institutions with prior experience in order to authorize such a proposal. This has never happened before in the history of the department for the credentialing of normal positivist approach courses.

Therefore, in order to satisfy this *sine qua non* condition, a collaborator (JNTB) from another topmost private institution was approached and readily accepted and volunteered to offer the course as a visiting professor. Apart from this contributor, another collaborator from the host institution (SPCC) embraced this challenge and decided to assist in implementing the course. This is the first ever course on Qualitative Methods in the program handled by her faculty member. Noteworthy, this program is the pioneering program of PhD course in accounting for the whole country which in fact monopolized the breed for more than three decades. As a result, it has always set the pace for the whole nation.

For me, teaching the course was not a problem in as much as it is an optional module which is seen as a complimentary course for those who so want to invest in it. My particular problem was the teaching of a compulsory module on qualitative research methods (Humphreys, 2006).

LITERATURE REVIEW

Over dimensioning the positivist perspective in relationship to interpretive perspective

For decades, we have witnessed the over dimensioning of the positivist perspective in relationship to interpretive perspective. This is because, the quantitative method has

been the only way of investigating accounting research questions, and this has given it the autonomy it bears. The qualitative research questions which need a second look at the interpretive or critical perspective had been relegated. Mainstream history has carried on regardless behind a defunct methodological shield (Sy and Tinker, 2005).

Time has passed and pressure now obliges researchers to choose between different dimensions of societal needs therefore requiring interpretation of accounting questions in a diversified format. The way in which the quest for research orientation makes researchers more likely to adopt some variants of research rather than others is a pressing concern shared by many academics in Continental Europe these days (Messner, 2015). De facto, the new breed in academia now has the choice of the alternative in majoring in critical perspectives. Focusing on the area of critical research, two trajectories emerge in the future of critical doctoral education in business schools: i) reconstituting the role of senior professors in the field whose ontology and scholarship are inflected by a critical orientation, and ii) pursuing concerted efforts to disengage with the mainstream (Prasad, 2015).

Resilience in program development

Getting abreast of the conceptions of resilience, one might say in a general perspective: being resistant, being a neutralizer, being full of annulment ego, perseverance, sacrificing, being thick skinned to mention just a few, aiming at attaining an objective. But is this welcoming for anyone in our current environment? How is this perceived? Pinel wrote about the psychiatric risks associated with unexpected reverses or adverse circumstances, and it is reported that his initial question to newly admitted psychiatric patients was: "Have you suffered vexation, grief or reverse of fortune (Rutter, 1985). The mothers' bivariate correlations indicate that self-esteem, optimism, religiousness, and cultural interdependency were significantly correlated with resilience (Lee et al., 2008).

Humans have been fascinated since ancient times with stories of people who overcome diversity to succeed in life (Masten, et al, 2009). However, telling one is probably the bone of contention of letting loose the experience worthy of sharing.

The idea of individual resilience in the face of adversity has been around for a very long time, evident in myths, fairy tales, art, and literature that portray heroes and heroines who surmount great obstacles (Campbell, 1970). In effect, it is the act of disentangling the node of adversities in the day to day activities of human lives. Masten et al. (2009) posit as positive adaptation in the context of significant variously referring to the capacity for, processes of, an outcome of successful life- course development following exposure to potential life altering

experiences.

The increasing interest in resilience in educational context has in part stemmed from an increased societal attention to issues of wellbeing (Beltman and Mansfield, 2018). Similarly, in the course program under analysis, it raises the necessity to think from outside the box of positivist perspective. Attempting to reculture and persuade researchers of the obvious need for change.

Misconception of differences between qualitative and quantitative research methods

The shallow thoughts about the differences between quantitative and qualitative methods have always created a division. Eventually, for some, this serves as a rationale to measure the degree of dominations. Hence, for this same group, the wheels of equality in expressing opinions in another manner will continue to grind slowly. Rather than supporting the divisions between qualitative and quantitative research, graduate reform should promote a learner-centered systemic approach to formative improvements, thus strengthening cohesion among all (Kelly and Kaczynski, 2006).

Similarly, it is long believed that qualitative analysis throws more light into the results of quantitative analysis, so the use of these methodologies complements one another to the benefit of the user of information derived therein.

Thus, to avoid faulty thinking, it is quintessential not to undermine the necessities to appropriately evaluate the usage of every methodology for the sake of validity of the results; save the ironical misconception that it is the only mainstream statistical tests that empirically support findings.

METHODOLOGY

A number of pedagogical issues combined with an auto-ethnographic account of parallel experiences of teaching qualitative research methods and some critical perspectives constitute the basis of our methodology and analysis.

This approach is coupled with content analysis of the course materials of the first round offering of the Qualitative Method Course as applied to accounting in traditionally mainstream programs. This was a course offered in the first semester of 2018 to predominantly the PhD students. The content analysis was drawn on the learning objectives as they were viewed by the students, perceptions of the students while experiencing some of the hands-on procedures and interpretation of some of their conceptions. Others are significances subtracted from the student confessions on their ignorance.

When we do auto-ethnography, we study and write culture from the perspective of the self (Adams et al., 2015). Also, inner-self is looked into to draw from identities be it individual or grouped questioning thoughts, feelings and experiences in our relationships, communities, and cultures. De facto, an auto-ethnographic study is a critical analysis of one's trajectory in a course of action in a relationship between phenomena.

If one critiques that it is not this storytelling that matters, an answer could be that this is new, not preselected, and also because

no one has ever told this story. Ellis et al. (2011) observed that it allows the readers to determine if the story is honest and if it rings true to their experiences. Berger and Ellis (2007) auto-ethnography shows the readers the manner they are similar to and different from others in the world. In effect, it is not the validation that matters in as much as emotion, fear and vulnerability surpass the need to tell the real truly lived story and after all, what a good story worth (Boje, 2001).

Data corpus

Data corpus consists of (a) Auto-ethnography of the professors, (b) History of the 20 first round students narrating their aims and why offering the course, (c) Course assessment at the end of the course, and (d) Wrap-up comments.

Data were the narratives conducted at the end of the course which lasted approximately 50 min. No ethical implications were considered here in as much as the students freely presented their views after the course and grading's had been presented, so answers could not be biased with students wanting to please the professor. Noteworthy also that the students did not feel pressurized to participate in the study.

In effect, data were obtained from 20 students consisting of 15 from the USP- Accounting program (2 from off campus), 2 from USP-Management program, 1 from USP- School of arts and communication, 1 from graduate program of Federal University of Minas Gerais from middle belt of Brazil and lastly, 1 special student.

RESULTS

Data analysis and results

Based on auto-ethnography and content analysis of the learning notes of the students, the following categories sorted in a relational thematic format, were carved out of self- reflexivity analyzed therein. Noteworthy, that saturation is considered as some aspects were presented repeatedly by the students in their notes.

Challenges of qualitative research methods

To one of the faculty members:

"A colleague said that, for me, results from qualitative research are an inexplicable bunch of rubbish. This could not be more encouraging to start a course".

Having heard this from a colleague, one gets astonished on the support expected to develop a first ever qualitative research course.

Prior image of qualitative research methods

The notes on the impressions after the first course from the assessment of the students show that the first round of the course ignited a series of doubts, knowledge, and approaches to rethink their skills on qualitative research methods.

"Janus the academic system shows that I still had 7 credits left and I was determined to take a course that was of interest to me, which would add knowledge to the thesis or for life, and definitely, I wasn't willing to get those credits in a hard way so, I wanted to learn, to be happy on the way through" (ELIB). So, considering the knowledge students have about the qualitative research methods, ELIB would say, "I think at best to just do the categorization of the interviews and write the final discussion about the data gathered". This is probably one of the issues that might have contributed to undermine the qualitative studies in the past and as it is common to speak about the unknown without substances. As put forth by JOPA, "I believe the highlight was the paradigm break I had from the case study as something simple and trivial".

Importantly, this must have been drawn after the student observed theory building arisen from the study of cases from organizations worked on in the QARM course.

Thus, based on Strauss and Corbin (2008), the data analyzed were categorized in first and second order, which brings significance as follows:

Primary objective of QARM

The qualitative research method involves an in-depth investigation of a phenomenon in a particular reality.

"After the first lecture, I concluded that the objective QARM is to study deeply the reality of a particular social group and, subsequently, serve as a basis for other social groups to appropriately reflect on their own" (RAIZ).

Even though QARM does not initially focus on replicability, when using this methodology, all the rituals of validity are respected in order to assure its scientism. For instance, recapitulating on interviewing posit by Lupu and Empson (2015).

"Means, drawing upon the differentiated writing, which makes it clear exactly how the study proceeded, as well as the triangulation between theories, the researcher's perception, and the observed interview" (RAIZ).

Also, the qualitative research is much more concerned with what one is really assessing the phenomenon for, the research questions, so there would not be any strangeness.

"As my personal characteristic is to look at the world initially in parts, to gradually build the whole, tools that segregate the contents into categories, and then be able to analyze the whole, the qualitative strategies, was as fine for me as econometrics tools" (BNGO).

At last, what are not inbuilt in QARM procedures are the

resources to enhance a ready-made analysis for the researcher.

“The MAXQDA software was adored by the students, at least in my views. It really seemed quite useful, but it was pointed out that the biggest work still lies within the efforts from the researcher and thinking is the task of the researcher” (VITR).

Learning objective and strategy for teaching QARM

When teaching qualitative research methods, professors should assume that all students are novices in qualitative methods. The belief that the master’s and PhD candidates have the idea of qualitative methods is unreal; this will enhance the drilling down. In case under analysis, none of the students new that the qualitative method research can adopt strategies ranging from, Basic Qualitative analysis, Ethnography analysis, Case Study analysis, Life History, and Phenomenographic Analysis. Others not known to them were Grounded Theory, Critical Discourse Analysis just to mention but a few. In fact, students have a scanty knowledge of qualitative approaches and what underpins the methodology.

“Wow! I had never thought that self-biographies and life stories could be treated as academic research methods. What ignorance is mine”(VITR).

Alias, rather would they imagine as put forth by Humphreys (2006) many methods and approaches that fall under the category of qualitative research, such as case study participatory inquiry, interviewing, participant observation, visual methods and interpretive analysis. In the same vein, the teaching adopted various experts since no one could perfectly dominate all the QARM strategies. It involved researchers who either taught the subject or writer who publishes studies on the qualitative strategy. They were invited to collaborate in the course. As put forth by VITR:

“The use of various professors enhanced in-depth treatment of every qualitative strategy thereby avoiding a superficial approach and also being boring. For me, this was very interesting”.

Lack of QARM course in other programs

“I chose this course for lack of such a discipline in my home unit of the university and also needed to develop the skills with QARM in order to develop future work” (JOPA). Yet by JOPA, “for the first class of the discipline, I confess that I was apprehensive since I did not know two professors, who were not from my institution, however, at the end of the class, I realized that the apprehension was

unnecessary because the mood of the class was very pleasant and proved to be a safe environment for discussion”.

ELIB cite some difficulties in taking the course off-station, *“I reflected for a few moments; after all, it was a whole semester, every Friday (God was generous to us and in the holidays we could take a deep breath at times of greatest fatigue), 660km, with our own budget, heat, cold, rain, traffic, etc., and we could pass several hours listing the difficulties to travel down to Sao Paulo”.*

Umbrella of qualitative research methods

The qualitative research method encapsulates a good range of research strategies, sometimes grouped under an umbrella. Under the umbrella of Figure 1, the qualitative research methods embrace basic qualitative analysis, ethnography, auto-ethnography, oral history, narratives, and phenomenographic analysis. Others are critical discourse analysis, case study analysis, and grounded theory. In other words:

Basic qualitative analysis examines the basic tenets and analyzes them using the basic notions, which mostly involve categorization.

Ethnography examines classic and contemporary discussions involving ethnographic practice in anthropology.

Autoethnography examines one’s trajectory critically, examining differences in relationships with others while focusing on a phenomenon.

Oral history investigates a collection of historical and lived experiences narrated through interviews.

Narrative describes a story from head to toe, allowing one to understand how research participants construct stories from their own lived experiences.

Phenomenographic analysis examines a phenomenon, aiming to identify the main aspects of its conceptions which are translated into personal and concrete meanings of phenomenological and human attitudes.

Critical discourse analysis is a distinct theoretical and methodological investigation of studies of how social power, abuse, and dominance are expressed in communication through social language.

Case study analysis investigates a situation, event, place, business problem, or process with a view to proposing the most effective solution and theories.

Grounded theory investigates social processes that are grounded in data that has been systematically collected to draw out theories that emanate from social relationships and the behaviors of groups.

“This ample coverage of qualitative research methods gave me certain comfort for choices for research in my PhD project” (LIED). The student

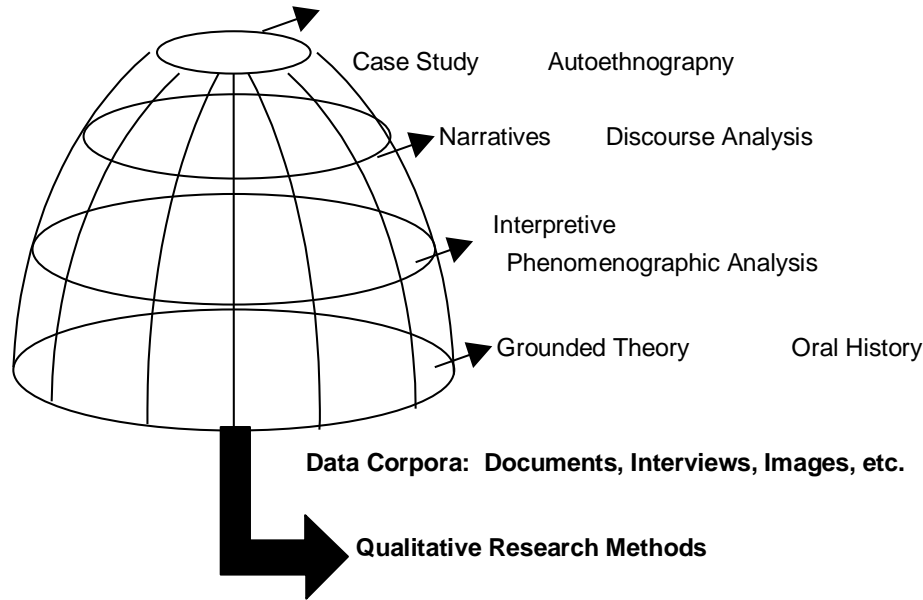


Figure 1. The umbrella of qualitative research methods.
Source: Author

continued, “I found myself in a dilemma on how to choose the appropriate method in the mist of diversities of qualitative research methods, thus, leaving me to decide between oral history and narratives”(LIED).

“For me, it was a good experience to know that theory building emanates from Grounded Theory that makes the application of case study approach more complete” (LIED. “I had the sweet illusion that my master’s study required me to cover everything about methodology, but I was wrong” (WILO).

Interpretive lens as complement and alternative for positivist perspectives

“I knew of the existence of qualitative method but, with alternative lenses for positivist perspectives” (BNGO).

“I need to convince my supervisor to allow me to offer the qualitative research method course as a last discipline for my credits” (DIAN).

“I have always been a defender of methods, be it qualitative or quantitative and think it should be a compulsory course to all graduate students” (DIAN). Importantly, analyzing both sides of the coin develop the critical thinking skills of the students, after all diversity in academia is more than needed. As observed by SAEL,

“Despite my positivist bias, I need to stress that my contact with an interpretive researcher was great for my critical development”.

Any scientism in qualitative research methods

“Doubted any scientism in QARM particularly when I observe the analysis of groups of people such as Brazilian primitive Indians through ethnography, I could not see any science in it” (BNGO). “At the beginning, I did not understand how possible it is to validate research in say ethnography in accounting” (LIED).

In the same line of thought, SAEL: “perceived a stream of qualitative methodologies that lunged me into more mental confusion that I did not imagine. This is not negative either, being the contact with the new obviously causes strangeness”.

Meanings derived from conceptions

Imoniana (2021) observed that deriving a meaning from an assembled conception creates a basis for the understanding of people’s actions. This could be understood the other way round when actions are thought off first before the conceptions people do have about things. Interpretative phenomenological method following the basics of discussion of some precursors such as Husserl (1859-1938), on transcendental phenomenology Heidegger (1889-1976) and Sartre (1905-1980) on existential phenomenology to mention just a few (Kerhert et al., 2019).

“How is it difficult to break the umbilical cord or vicious cycle and perceive what is really important to each one of us, being autonomous and

responsible for the dynamics of our routines” (BNGO).

“I kept asking myself a question if there are studies adopting phenomenographic analysis in, accounting as I have never thought of it” (LIED). As put forth by DIAN,

“Students take home becomes relevant in the reflexivity. I confess that until this course I have never heard about such a method as phenomenographic, but as soon as we started this discussion about how the students conceive the learning experience, segregating it within experience (the given class) experiencing (as lived experience) and experienced (turned out for the students”.

“It was very exciting for me to have had the task of conducting interviews, since I have not had the opportunity to interview someone yet, even though the interview by concept has been cited as the most commonly used procedure for data construction in qualitative research” (VITR).

Adjusting expectations of QARM

After the first lecture, students began to tune to the channels of QARM *per se*.

I expected a practical course, direct and objective. I wanted to gain additional knowledge in a methodology to use in my thesis, basically interview skills” (SAEL).

“I remember the lecture on interviewing and my feelings and almost cried, as I have just defended my Master’s dissertation. I imagined a log of wrong procedures covered. If I had had this course before my Masters, I would imagine the interviews differently” (WILO). “Narrative class arrived, though with frustration, as it came after my qualifying exam, expectations were high” (JOPA).

Shallow coverage of QARM topics

Because of the broad coverage of QARM course, one course is not enough to cover the entire subject. Normally, one just professor offering the course may not properly master all the qualitative strategies. For the course under analysis, several different professors with racialization in different strategies have been involved.

“Among the proposed texts. I found Netnography very interesting, because nowadays there are several virtual communities that can be studied. However, I missed addressing both Netnography and Photo-

etnography during class of Ethnographic analysis” (JOPA).

Uncommon approach to teaching QARM

Unusual approach may be used to teach QARM particularly teaching narratives and storytelling. Students need to exercise the three blocks of narratives involving initial, middle and finalization of narration with texts reading changing from hand to another hand and which has a logic that makes a true sense of a story.

“The narrative class started with group reading, changing the usual dynamics of the subject development, which I found quite interesting, because we are used to reading individually and quietly and not collectively and aloud” (JOPA).

This further makes one to draw on Humphreys (2006) as he stresses his satisfaction observing that is beginning to see the light as he began to teach qualitative research methods.

The Language of QARM

Developing research using qualitative methods require the usage of adequate languages to dialogue input of data for analysis and putting the output in a readable or sellable format to the particular public. For instance, we say data building or construction in as much as data used by qualitative researcher is not stored somewhere like the archival data in databases such as Economatica or Bloomberg and not constituting analysis of variables.

What is my phenomenon and how my phenomenon is behaving in the social placement. The interpretive perspective is always working on self-reflexivity in order to solidify the reflection upon the phenomenon. This means that one does not separate the researcher from the interviewee or the phenomenon in order to stimulate a contributive analysis.

So, this way of thinking always borders on the newcomers to QARM, particularly those who have worked extensively with positivist paradigms. For the PhD students, it is not a surprise as they are taken unaware using the languages wrongly or sometimes interchangeably.

“Building data and not collecting data ... what do you mean? It was slow (a bit of reluctance), but in the end all the concepts made sense. I realized that we try to fit the new knowledge into what we already know, which is not very productive. We need to take off the armor so that “the new can touch us” (SAEL).

QARM time will tell

The methodology generally conquers some adepts as users get used to it as a stimulant for reflexivity. Moreover, expanding with the use of QARM seems a matter of time to help grow in empirical studies and this is gaining ground.

De facto, a sought of institutionalization will help solidify its usage and also help propagate it, thereby gain scientific trust among pairs.

“A recent development is that the School's Senate has accepted the recommendation that QARM be made mandatory for doctoral candidates in the accounting program, which is very satisfying to me as a professor who saw the course emerge from a constructivist perspective” (JOI).

DISCUSSION

In order to make a reflexive connection between the hurdles jumped during development and teaching of the qualitative research method (QARM) program, and the stories of the PhD students on their experience of choosing to offer the course, certain significances out of lived experience have been pinpointed. This further generates a reflexivity upon the factors that spurs the choices of the PhD candidates to adopting qualitative strategies. In respect of this, the following significances are identified as follows:

Idolatry upon conservatism

The students being on the weaker edge of the sword are forced to idolatry the mainstream that probably sees change as a threat. This may not be unconnected with the saying that once one is supervised by the higher echelon professor, the student is half passed. However, it is time that we augment the product of such conservative approach of thesis supervision which does not yield a relevant contribution to the main stakeholders or science at large.

In effect, this orientates the choice of positivist approaches as the first choice of the students. Traditionally, the more experienced researchers are the ones who have a lukewarm attitude towards new methodologies and reluctant to embrace drastic changes that follow the new era.

False identity and moral harassment

What people see as normal is students being forced to bear a false identity as they belong to a group, they would like to develop their PhD projects. Students forced to choose a method that does not coincide with their ways of

thought creates a false identity within academia. Similarly, troubled at last to maintain this option after the master's degree program probably lays uncomfortable precedence. This seems to be questioned by the students at last in their PhD programme, in Qualitative Research Course.

In the same vein, students eventually are induced to submission to accept believes of their supervisors as their says would probably be suppressed. Maybe this might have resulted in moral harassment. For women engineers, there is also gender harassment, through explicit situations of discrimination and violence, which tend to negatively affect their higher insertion in construction sites (Silva, 2018).

Inducement of disciples to submission

Without the freedom to choose their faith, students appear to select from a set of positivist perspectives. This limited opportunity subjugates these students to lingering doubts that cultivate unexplored methodological skills. It makes them believe in the same traditional story. One therefore question, in the final analysis, if the students do not suffer moral embarrassments.

As a result, understanding the complementarity of qualitative and quantitative research methods benefits society as a whole; while disagreements among researchers undermine their contributions. Afterall, is the research not out to comply with the objectives of academia, and consequently address the societal problems?

Focus when adopting QARM

The adoption of qualitative research methods requires focusing on and exhaustibly exploring the strategy one has chosen to address the research question and the theory for the basis of analysis. By always having this measure of checks and balances with the research question, Steccolini (2022) observed that qualitative research requires a continuous re-consideration of the research question.

This straightforward pattern shows the uniqueness and validity of the course of the study. De facto, call a spade a spade, for instance: a study might be epistemologically and ontologically control-based, interpretive, or constructivist perspective. Say, this study is ontologically based on a relativist standpoint which is epistemologically backed up with a constructivist perspective (Imoniana et al., 2018). Another could just be a critical perspective.

A critical perspective demands shaking up some variety of wasp and power tussles and if one is afraid of questioning some comfort zones that warrant some reflexivity, then should not engage in qualitative research based on a critical perspective.

Complementarity of qualitative and quantitative research methods

Importantly, as there is normally just a question statement to be clarified in a research project the methods to fetch this response may be just a consequence. In some cases, this could necessitate just a qualitative approach and others quantitative or just both. Therefore, the complementarity of methods becomes evidently in the operationalizing of the constructs.

In this intent, it does mean a need for studies embracing other research approaches such as qualitative. There needs to be more openness to new ideas, new methods, and new approaches (Steccolini, 2022).

Overall, the understanding of the complementarity of qualitative research method wills so far usher in a peace and stability in the long-lasting relationship of undeclared war between mainstream researchers thereby giving rooms for join approached research and knowledge development.

Conclusion

This study makes a reflexive connection between the hurdles jumped during development and teaching of the qualitative research method (QARM) program, and the stories of the PhD students on their experience of choosing to offer the course. Our findings make us argue for resilience in surmounting development of qualitative research course in as much as in a conservative environment breeding interpretive respective research becomes a challenge. Other innovative hands-on methods ought to be used to teach QARM since kick starting data construction and data analysis are the cornerstone of the methodology.

In the light of the above, this study makes us argue for resilience in surmounting development of qualitative research course in as much as in a conservative environment breeding interpretive perspective research becomes a challenge. Above all, teaching QARM to students who have been brought up in a conservative accounting program may be pleasing since their discoveries attract enthusiasm.

Finally, given the limitations imposed on auto ethnography, this study provides food for thought and implications. More research with focus groups or a larger university environment covering subjects other than accounting is likely to be required.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Executive functions, gender, and personality traits in students with and without specific learning disabilities

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This study examined the associations between executive functions, gender and personality traits in students with and without specific learning disabilities (SLD). In this study, 80 sixth-grade students were sampled. Of these, 40 were students diagnosed with learning disabilities, 22 boys (55%) and 18 girls (45%) and 40 with no such diagnosis, 23 boys (57%) and 17 girls (43%). All students were tested using two instruments, one for executive functions and the other for personality traits. The present study found a significant difference between students with and without specific learning disabilities on all measures of executive function and personality traits. Also found, was a significant gender-related interaction on measures of attention and time management (executive function) and on measures of neuroticism and of agreeableness (personality traits). Significant associations were also found between executive functions and personality traits on some of the tested measures in the study population. Of the Big Five personality traits, this study found the following significant correlations with executive functions: Response inhibition with extraversion and neuroticism, emotional control with extraversion, task initiation with openness, organization with neuroticism, meta-cognition with conscientiousness, goal-directed persistence with neuroticism and agreeableness, and the overall index with neuroticism. The marked disparities found between the two populations of students suggest that it is important to pay special attention to the population with specific learning disabilities and make an effort to bolster these students in the areas indicated by the measures tested in this study. Such action could have a positive impact on a variety of other pedagogical-related phenomena, such as dropout rates, academic achievements, and social interactions if gender-related aspects are addressed.

Key words: Executive function, gender, personality traits, specific learning disability

INTRODUCTION

Executive functions, personality traits, and the neurological system are currently areas of great interest in brain and behavior science. Executive functions are the psychological structure that forms the high-order

cognitive and self-regulation processes which organize thinking and action. Executive functions include planning, working memory, impulse control, inhibition, shifting between tasks, initiating, and control (Brown, 2006;

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Salehinejad et al., 2021). Personality traits are the collection of characteristics that are typical of and unique to an individual, and they are the product of cognitive and social abilities. The Big Five Personality Traits model proposes five fundamental dimensions of personality: neuroticism versus emotional stability, extraversion versus introversion, openness versus relying on intellect, agreeableness versus antagonism, and conscientiousness versus competitiveness (Cattell and Mead, 2008). Specific learning disability (SLD) is a neurodevelopmental disorder which affects basic learning functions (like reading, writing, mathematics), and interferes with the ability to acquire skills and express abilities as expected by age and IQ. Specific learning disabilities do not derive from intellectual disability, emotional disorders, or vision, hearing or motor disabilities. Individuals with a diagnosed specific learning disability can expect it to affect many aspects of their lives, at school, at the workplace, and in social settings. Specific learning disabilities are often divided into three categories: reading (dyslexia), writing (dysgraphia), and mathematics (dyscalculia) (American Psychiatric Association - APA, 2013).

There are several current explanations of gender-related differences in specific learning disabilities, but as some of these differences have been ascribed to instrument bias, there is need for further research on this question (Ashraf and Najam, 2017). The literature describes the prevalence of reduced function, performance, achievements, and skills in students with learning disabilities and a link between this prevalence and executive functions (Tannock, 2013; Trainin and Swanson, 2005). It is therefore important to examine how to best improve executive function, as a way to combat the resulting drop in motivation and persistence, frustration and anxiety, and low self-esteem that these students experience. Current research also indicates that personality traits affect these difficulties, either promoting or hampering coping mechanisms (Krieger et al., 2020). Recently, fascinating studies of the interaction between two fundamental structures of individual differences have shown that personality and cognition are linked on both the phenotypic and genetic levels (Curtis et al., 2015; Rammstedt et al., 2018; Nikolašević et al., 2021). At least superficially, executive function as a cognitive measure shares many of the conceptual characteristics of several personality traits reported in the literature, and similar terms are used to define strategies in both domains: personality traits and executive function. A recent study found, on the one hand, that greater conscientiousness and extraversion together with lower neuroticism predict better working memory, and on the other hand, greater conscientiousness and agreeableness together with lower extraversion predict better inhibition. These insights suggest that these measures of individual differences share many common points, both on the psychological and the neuro-biological level. Executive functions are

therefore almost certain to play a key role in the development of psychopathological personality function, but there is insufficient data regarding the differential association of executive function with normative personality structures (Nikolašević et al., 2022). Although there are studies of executive function in populations with specific learning disabilities in relation to either gender or personality traits, it seems there is no previous study examining the relationship between specific learning disabilities and all three variables-executive function, personality traits, and gender-as compared with populations without specific learning disabilities. Nor is there a similar study in the age group tested in the present study: sixth-grade students who are in their final year of elementary school before they move on to high school.

This study therefore aimed to examine the associations between executive functions, gender, and personality traits in students with and without specific learning disabilities. Understanding these associations may help educators design better curricula, identify problem areas in the educational system, and offer students with specific learning disabilities interventions that include necessary adjustments for gender.

THEORETICAL BACKGROUND

Executive functions

Executive function is a term used to describe a group of mental processes that connect past experience with present actions. These processes allow individuals to respond flexibly to their environment and integrate action with goal-oriented thought. Executive functions create the basis for abilities such as problem solving, and are most often applied when external direction is absent and in new situations (Cragg and Gilmore, 2014). Executive functions manifest in a person's ability to plan, organize, use strategies, think flexibly, pay attention to detail, prioritize, focus, maintain and shift attention between tasks, maintain effort, regulate alertness, regulate emotions, use working memory, grasp abstract ideas, and self-monitor (Anderson and Catroppa, 2005; Brown, 2006; Kave et al., 2007; National Joint Committee on Learning Disabilities - NJCLD, 2005). As such, executive functions are part of the cognitive abilities that form adaptive function and that facilitate goal-oriented behavior, flexibility and autonomy (Spinella, 2005). These skills first appear in infancy and continue developing into adulthood (Stadskleiv et al., 2017). People with impaired executive functions have difficulty planning, organizing, and managing their time and space. They often present weak working memory, which is an important tool in guiding a person's actions. As with specific learning disabilities, executive function disorders can be hereditary. The signs are evident at any age, but become

clearer in children when they start elementary school. For example, requiring a child to do their homework independently may expose difficulties in this area (Bishara and Kaplan, 2016; NJCLD, 2005). These processes are more often impaired in people diagnosed with ADHD and hyperactivity, autism spectrum disorders, dyslexia and dyscalculia, as well as in people with depression, anxiety, and sleep disorders (Best et al., 2009; Monetten et al., 2011; Serfaty, 2016). As noted in the introduction, recent research has found evidence of associations between cognition and personality (Curtis et al., 2015; Rammstedt et al., 2018; Nikolašević et al., 2021), and it seems that links between personality traits and executive functions support the mechanisms of daily functioning (Nikolašević et al., 2022). Executive function as a cognitive measure shares conceptual characteristics with personality traits, presented in the study.

Personality traits

A personality trait is a cluster of typical characteristics that people have to different degrees and that affect constructs at the root of personality. The goal of personality theory is to formulate a matrix of an individual's characteristics that is predictive of that person's behavior (Cattell and Mead, 2008). Despite the diversity of sources reporting personality traits and of measuring techniques, there is agreement about five central features of personality, as proposed by the McCrae and John Big Five model (McCrae and John, 1992; Waller and Zavala, 1993). Currently, it is the most widely accepted model and there is broad consensus about its efficacy (Etzion and Walski, 1998). It describes five bipolar personality dimensions that encompass specific traits. Each of the five dimensions is composed of six highly intercorrelated sub-dimensions. The first dimension is neuroticism (N) vs. emotional stability. Neuroticism reflects the frequency and intensity at which a person experiences unpleasant feelings such as self-consciousness, worry, inferiority, as opposed to feelings of confidence, serenity, and satisfaction. Persons with high N tend to worry, be afraid, depressed, experience mood swings, emotional distress and unrealistic thinking, be extremely passionate, and have difficulty delaying gratification. People with low N tend to be emotionally stable which typically presents as being satisfied with life, and free of depression and emotional difficulties. N sub-dimensions are: anxiety, aggressive anger, depression, self-awareness, impulsivity, and vulnerability. The second dimension is extraversion (E) vs. introversion. It represents the tendency to have social interactions, be assertive, active, and seek stimulation as opposed to being introverted, reserved, and distant. People with high E tend to have positive feelings, are sociable, active, talkative, and well-liked. Low E people tend to be introverted, composed, detached, independent, and

quiet. Introverts are not necessarily unfriendly or pessimistic, but they do not exhibit the same exuberance as extroverts. E sub-dimensions are warmth, preference for social environment, assertiveness, active temperament, seeking stimulation, and positive affect. Openness to experience vs. relying on intellect is the third dimension. It represents the tendency to creativity, imaginativeness, quick perception, discernment, and consideration. Strong O people are curious, have highly developed imaginations, and support unconventional opinions and values. People with low O tend to have rigid beliefs and opinions, and are resistant to new ideas and experiences. Sometimes they do not respond to emotional stimuli, do not give up easily or change behavior patterns. O sub-dimensions are: a tendency to follow imagination, a sense of esthetics, emotional open-mindedness, being ready to act, openness to other ideas and values.

The fourth dimension is agreeableness vs. antagonism. High A personalities are kind, pleasant, trusting, giving, forgiving, and altruistic. Low A personalities are egocentric, manipulative, cynical, suspicious, competitive, and less considerate. The A sub-dimensions are ability to trust others, directness, altruism, responsiveness, modesty, and caring.

The fifth dimension is conscientiousness. C personalities are on the one hand reliable, cautious, organized, efficient planners, and on the other end, they are competitive, ambitious, and goal-oriented. High C persons are organized, ambitious, heavily-invested in their job, self-motivated, and responsible. Low C persons are lazy, irresponsible, apathetic, and driven by the search for pleasure. The C sub-dimensions are competitiveness, order, responsibility, ambition, self-discipline, thinking before acting (Maertin et al., 2006). In general, conscientiousness displays the most interaction with planning or executive control processes, and neuroticism, agreeableness, and extraversion are associated more clearly with reactionary or motivational control processes. Conscientiousness is also linked with curbing impulses, effortful attention, planful behavior, organization and achievement orientation. Krieger et al. propose that the "overarching inhibitory component of conscientiousness is associated with self-regulation, probably reflecting some kind of top-down regulation process" (Krieger et al., 2020). Many researchers have addressed the role that the five personality traits play in academic success in an educational setting (Abd Hamid et al., 2020; Angelkoska et al., 2016). Jensen (2015) suggests that a person's more prominent personality traits have a discernible effect on academic success. Indeed, individual differences in personality affect the way learners approach and process learning materials, which in turn affects their learning (Spinath et al., 2014). For example, when appearing together, openness and conscientiousness were found to be positive predictors of grades in mathematics (Levpušček et al., 2013).

However, despite the broad application of the Big Five model, a literature review conducted for this paper found very few studies that examined these traits in students with learning disabilities. One of the few is the Brown and Cinamon (2016) study which describes a lower prevalence of extraversion and openness in adolescents with learning disabilities compared with adolescents with no academic difficulties. In addition, many parents of adolescents with learning disabilities make decisions for their children and adolescents who are in school, particularly in academic matters. This makes it likelier that growing up, these children will have less experience setting themselves goals, developing initiative, and planning activities, i.e. fewer opportunities of developing their conscientiousness.

Personality traits and gender

There are gender-related differences in personality structures. Men are often perceived as motivated by external factors such as financial security, salary, and occupational status; whereas women are frequently perceived as motivated by convenience and the need to combine a career with family life, particularly after they become mothers (Maertin et al., 2006). Often in the literature, men as a group are assigned physical qualities (strong, courageous, untroubled), functional qualities (protector, breadwinner), sexual qualities (aggressive, experienced, confident), emotional qualities (unemotional, reserved, hides weakness), intellectual qualities (logical, learned, rational, practical), and interactive qualities (leader, dominant, independent, individualist), and manly personality meaning being successful, ambitious, aggressive, competitive, arrogant, egocentric, and adventurous (Krieger et al., 2020). However, much has changed since then in the way researchers perceive personality and male qualities (Offer and Kaplan, 2021). Historically, women were defined as submissive, gentle, modest, and obedient by a patriarchal world that perceived them as weak. Today, modern dialog surrounding feminine qualities counts feminine traits such as collaboration, caring, courage, intuition, vision as meaningful and necessary in positions of leadership, and in life in general (Maertin et al., 2006). Evidence of gender differences in personality can be seen in a modern study based on the Big Five model of personality traits, where researchers found that women in general scored higher than men on neuroticism, extraversion, and agreeableness (Weisberg et al., 2011). Studies of gender differences in learning disabilities have shown that reading and writing difficulties are less common among girls (fewer girls are diagnosed with these disabilities than boys). To date, there are several explanations for gender-related differences in learning disabilities, but as some of these have been ascribed to instrument bias there is need for further research (Ashraf

and Najam, 2017). The present study tested personality traits and gender differences in populations of school children with and without learning disabilities. As personality and gender traits have been tested largely in adults, the results of this study of younger students are of particular interest.

Specific learning disabilities

The DSM-5 defines a specific learning disability as a specific learning disorder in three separate academic areas: reading, writing, and mathematics. The definition of specific learning disorder first appeared in the DSM-5, which is an indication of the need to pinpoint the difficulty. The requirement for specificity reflects the progress made in the study and treatment of learning disabilities, because the specific definition facilitates focused intervention (APA, 2013; Tannock, 2013). The DSM-5 definition of specific learning disability signifies that specific learning disabilities are of neurological-cognitive rather than environmental origin. Similarly, sensory and emotional disorders, and physical or intellectual disability are excluded as a cause of specific learning disability. The DSM-5 definition also includes marked gaps between a student's IQ and academic achievements (APA, 2013). The DSM-5 recommends diagnosing a specific learning disability based on lists of skills. Specific learning disorder with a reading disability manifests as inaccurate, slow, or labored reading of words, and reading out words incorrectly, slowly, or hesitantly, guessing words, having trouble enunciating, or difficulty understanding the sequence, relationship, conclusions, or deeper meaning of the text. A specific learning disorder with a writing disability may manifest as illegible handwriting, effortful writing, difficulty in constructing paragraphs, and frequent spelling, syntax, and punctuation errors. A specific learning disorder with a mathematics disability is likely to manifest in difficulty understanding numbers, extracting facts or calculations, applying concepts, facts, or mathematical procedures when solving math problems (APA, 2013; Tannock, 2013). In Israel, the Ministry of Education (2009) applies two of the DSM-5 criteria: significant and persistent gap between actual academic achievements and expected achievements by age and class, and marked discrepancy between actual academic achievements and intellectual abilities as measured in objective IQ tests.

Association between executive functions, gender, and personality traits in students with and without specific learning disabilities

Executive function research has shown that students with specific learning disabilities have difficulty completing tasks that rely on executive functions. As a result, they

are unable to achieve the required knowledge and skills for their age. Impaired executive function makes the demands of the standard curriculum more complicated for this population: As they fail challenges they are given, students with specific learning disabilities may develop frustration and anxiety followed by reduced self-efficacy and resilience, ultimately resulting in reduced motivation, effort, and persistence (Tannock, 2013). It seems that both impaired executive function, which makes it harder to meet challenges, and the reduced motivation due to this failure may produce a consistent pattern of lower than expected academic achievements (Trainin and Swanson, 2005). The multi-component model of working memory (Baddeley, 2007) is one of the prominent cognitive frameworks that has been linked with executive function. This model proposes one cognitive component that specializes in conserving speech-based phonological knowledge, another component for visual and spatial information, and a third component which the model assumes is the central control structure. This third component is called the central executive and it regulates frontal lobe cognitive processes and executive functions. A qualitative Swedish study examined the relationship between the quality of instruction in school and executive functions by looking at students with and without learning disabilities, their teachers and parents. This study found that students with learning disabilities had impaired executive functions and pointed out both to the importance of adapting teaching practices for these students, and to the need for close collaboration between teachers, parents, and domain experts (Verdier et al., 2018). Another study looked at how motor disorders are linked with dyslexia and executive function in children and adolescents by testing for change following motor exercise. This study showed that exercise reduced error rates in students both with and without learning disabilities (Marchand et al., 2017). A study that examined the connection between executive function and handwriting skills compared students with and without learning disabilities and showed that executive function was significantly better in student without learning disabilities and this affected handwriting (Bishara and Kaplan, 2016; Schuck and Crinella, 2005).

Krieger et al. (2020) tested executive function and personality traits in adolescents with ADHD. Their findings show that ADHD greatly affected adolescent behavior and actions, by making them more industrious. The implication is that hyperactivity can be harnessed together with personality traits to improve academic and social functioning. According Krieger et al., the Big Five personality traits, executive functions, and the symptoms of ADHD are linked in many ways, such as inattention associated with executive functions and conscientiousness and hyperactivity-impulsivity is associated with agreeableness, neuroticism and reactive control. They also suggest that these varying patterns of association may reflect mediation by two different pathways:

either a top-down process influenced by executive function or a bottom-up process affected by automatic influences. If individual differences in executive function reflect top-down differences in control, this could explain the links between personality traits and ADHD symptoms in situations which require controlled responses rather than automatic ones. It is noted that despite the wide application of the Big Five model of personality traits (McCrae and John, 1992), a review conducted for this paper found very few studies that examine these traits in students with learning disabilities. Such a study could be of great interest because some of the personality traits in the Big Five model reflect skills and abilities that are affected by the existence of a specific learning disability, for example, planning, organization, persistence, curiosity, or seeking excitement. Specific learning disabilities have also been linked to gender; boys are diagnosed with specific learning disabilities and specific reading and writing disorders more than girls. As noted, some explanations ascribe these gender differences to instrument bias, but some differences remain unexplained (Ashraf and Najam, 2017). Consequently, this study aimed to examine the associations between executive functions, gender, and personality traits in students with specific learning disabilities and compare them to students without specific learning disabilities. It is important to understand whether and how these factors are linked, so that personality traits can be exploited to develop executive functions in students with specific learning disabilities and improve their academic achievements (Figure 1).

Research questions

1. Is there a difference between students with and without specific learning disabilities in executive function? Does the expected difference vary consistently with gender?
2. Is there a difference between students with and without specific learning disabilities in personality traits? If present, does this difference vary consistently with gender?
3. Is there an association between executive function and personality traits in the study population?

Study hypotheses

1. There is a significant difference in executive function between students with and without specific learning disabilities. Students with specific learning disabilities will have weaker executive function compared with students without specific learning disabilities.

Reasoning: A review of the literature has shown that students with specific learning disabilities have weaker effective executive functions; in these students self-regulation, flexible thinking, and ability to grasp abstract ideas are reduced.

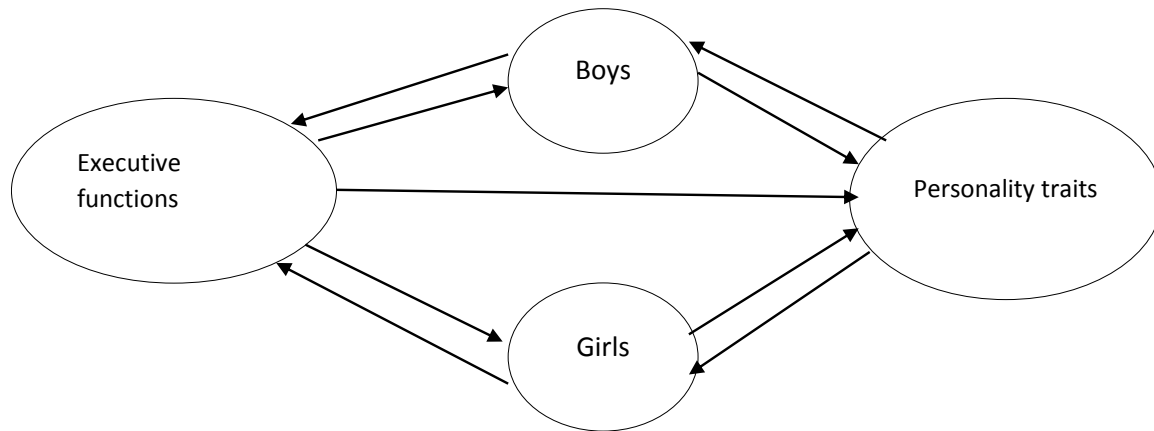


Figure 1. Study model.
Source: Author.

2. Executive function, gender, and specific learning disability are interrelated.

Reasoning: The literature has shown that girls with specific learning disabilities have stronger executive functions than boys with specific learning disabilities.

3. There is a significant difference in personality traits between students with and without specific learning disabilities. Students with specific learning disabilities will have different personality traits than students without specific learning disabilities.

Reasoning: No trend or feature of this difference can be proposed as this is a pilot study.

4. There is significant interaction in gender-related personality traits between students with and without specific learning disabilities.

Reasoning: The literature does not discuss differences in personality traits between boys and girls, but there are studies that point to differences and these need clarifying.

5. There is an association between executive functions abilities and personality traits in the study population.

Reasoning: As this is a preliminary study, it is not yet possible to specify which executive functions may be associated with which personality traits.

MATERIALS AND METHODS

Participants

Eighty sixth-grade students (aged 11 to 12 years) from two different elementary schools participated in this study. The children attend integrated classes in general education schools. In the first group there were 40 students with specific learning disabilities (50%) of which 22 (55%) boys and 18 (45%) girls. The second group had 40 students without learning disabilities at all (50%), of which 23 were boys (57%) and 17 (43%) girls. All students come from middle-class homes with large families, where mothers are homemakers, and fathers are employed and earn an average wage. All participants with specific learning disabilities underwent a psychological evaluation by the Counseling Services in their area irrespective of

this study. This evaluation includes a psychologist's diagnosis of the type of disorder, a Wechsler IQ test (WISC), and didactic assessment for reading, reading comprehension, mathematics, and English by qualified didactic evaluators using accepted instruments. These evaluations also test for visual-motor and visual, hearing, language, memory, thinking, and attention and concentration skills. Based on the information in these evaluations, the participants in this study had an IQ in the normal range (85 to 115 on the Wechsler scale) and comprehensive learning difficulties. Their cognitive abilities were in the normal range and they had no overt or underlying sensory impairment.

Research instruments

Executive functions questionnaire

The study used executive skills in children and adolescents questionnaire developed by Dawson and Guare (2018) with 36 questions relating to twelve types of executive functions. Each item scores agreement on a Likert scale of 1 (disagree completely) to 5 (agree strongly). Overall reliability for the questionnaire was $\alpha=.86$. A higher score indicates a higher level of executive function. The twelve types of executive functions tested were: Response inhibition (items 1, 2, 3), such as "I don't jump to conclusions," $\alpha=.55$. Working memory (items 4, 5, 6), such as "I have a good memory for facts, dates, and details," $\alpha=.71$. Emotional control (items 7, 8, 9), such as "My emotions seldom get in the way when performing on the job," $\alpha=.60$. Task initiation (items 10, 11, 12), such as "No matter what the task, I believe in getting started as soon as possible," $\alpha=.66$. Sustained attention, (items 13, 14, 15), such as "I find it easy to stay focused on my work," $\alpha=.72$. Planning/prioritizing (items 16, 17, 18), such as "When I plan out my day, I identify priorities and stick to them." $\alpha=.61$. Organization (items 19, 20, 21), such as "I am an organized person." $\alpha=.65$. Time management (items 22, 23, 24), such as "At the end of the day, I've usually finished what I set out to do." $\alpha=.72$. Flexibility (items 25, 26, 27), such as "I take unexpected events in stride," $\alpha=.73$. Metacognition (items 28, 29, 30), such as "I routinely evaluate my performance and devise methods for personal improvement." $\alpha=.63$. Goal-directed persistence (items 31, 32, 33), such as "I think of myself as being driven to meet my goals." $\alpha=.68$. Stress tolerance (items 34, 35, 36), such as "I enjoy working in a highly demanding, fast-paced environment." $\alpha=.68$.

Personality trait questionnaire

The personality trait questionnaire is a condensed version of the 1992 McCrae and John BFI (Big Five Index) questionnaires, translated into Hebrew by Etzion and Walski (1998). Respondents were asked to rank their agreement with 44 personality trait items on a 5-point Likert scale (1-strongly disagree, 5-strongly agree). Overall reliability for the questionnaire was $\alpha=.89$. The questionnaire addresses five personality traits.

Extraversion facets: Strong social needs ability to connect, assertive, talkative, and active. The opposite end of this scale is introversion. There were eight items for this sub-dimension (6, 11, 16, 21, 26, 31, 36). Two items were reversed so that a high score indicates being highly extroverted (21, 31), for example: "inhibited and reserved" reliability $\alpha=.83$.

Neuroticism facets: Anxiety, depression, anger, self-consciousness, worry, emotionality, and vulnerability. The other end of this scale is emotional stability. There were eight items for this sub-dimension (4, 9, 14, 19, 24, 29, 34, 39). Three items were reversed to test neuroticism rather than emotional stability. For example: depressed and tends to be irritable. Reliability was $\alpha=.85$.

Agreeableness facets: Being courteous, flexible, reliable and trusting, easy-going, collaborator, forgiving, tolerant. The opposite end of this scale is antagonism and hostility. There were nine items for this sub-dimension (2, 7, 12, 17, 22, 27, 32, 37, 42) of which four were reversed (2, 12, 27, 37). For example: "Tends to criticize and find fault in others." Reliability $\alpha=.87$.

Conscientiousness facets: Being cautious, thorough, responsible, organized and planned, hard-working, persistent, and self-disciplined. The opposite end of this scale is undirectedness. There were nine items for this sub-dimension (3, 8, 13, 18, 23, 28, 33, 38, 43) of which four were reversed (8, 18, 23, 43). For example: "Does a thorough job." Reliability $\alpha=.86$.

Openness to experience facets: Being imaginative, curious, original, having wide interests, highly intelligent, and artistically sensitive. The other end of this scale is closeness to experience. There were ten items for this sub-dimension (5, 10, 15, 20, 25, 30, 35, 40, 41) and one item was reversed (41). For example: "Is original, has new ideas." Reliability $\alpha=.87$.

Research method

80 sixth-grade students who attend integrated classes in two general-education elementary schools participated in this study in coordination with the schools' educational authorities. Twenty students were selected from each class (ten with and ten without specific learning disabilities). Participants responded to an executive functions questionnaire and a personality traits questionnaire. Students were told that their information would remain confidential, that there is no single correct answer, and that for each statement they should select the answer with which they most agree. Participants were asked to state their age, gender and class but to refrain from providing their name. Statements were read to the students out loud and students marked their responses on their sheets. Both questionnaires were administered at the same time, and the process took about half an hour.

Data processing methods

Averages and standard deviations were calculated. The associations between variables were tested by Pearson correlation.

Differences in executive function and personality traits were tested with t-tests for independent samples. The interaction between gender and group type was tested using two-way ANOVA in a 2X2 matrix. Data was processed using SPSS version 21.

FINDINGS

Differences in executive functions between students with and without specific learning disabilities

The findings regarding differences in executive functions between students with and without specific learning disabilities (Hypothesis 1) are shown in Table 1. Table 1 shows that on most measures (response inhibition, working memory, task initiation, attention and concentration, planning/prioritizing, organization, time management, flexibility, meta-cognition, goal-directed persistence, and stress tolerance) students with specific learning disabilities scored significantly lower than students without specific learning disabilities. On emotional control, students with specific learning disabilities scored significantly higher than students without specific learning disabilities.

Interaction between executive functions in boys and girls with and without specific learning disabilities

According to the second hypothesis, this study analyzed gender-related differences in executive function between students with and without specific learning disabilities. Only two measures attention and concentration and time management were statistically significant. Table 2 shows average, SD and two-way ANOVA. The information in Table 2 and in Figures 2 and 3 shows significant interaction for attention and concentration and for time management. For both functions, on average, students (boys and girls) without specific learning disabilities scored significantly higher than the students with specific learning disabilities. The data also show that the gaps in attention and concentration are greater for boys than for girls in the group with specific learning disabilities, and in time-management they are greater for girls than for boys. In other words, boys without specific learning disabilities have less attention and concentration problems than girls, and girls without specific learning disabilities are better at time management than boys.

Differences in personality traits between students with and without specific learning disabilities

The findings regarding differences in personality traits between students with and without specific learning disabilities (Hypothesis 3) are shown in Table 3. The averages shown in Table 3 indicate that on most measures (extraversion, agreeableness, conscientiousness, and openness) the students with specific learning disabilities scored significantly lower

Table 1. Average, standard deviation, and t-test for executive functions in students with and without specific learning disabilities.

Variable	Group type	<i>M</i>	<i>SD</i>	<i>t</i>
Response delay	With specific learning disabilities	3.61	0.28	9.92**
	Without specific learning disabilities	4.40	0.40	
Working memory	With specific learning disabilities	1.38	0.34	14.58**
	Without specific learning disabilities	3.50	0.33	
Emotional control	With specific learning disabilities	2.57	0.33	12.58**
	Without specific learning disabilities	1.65	0.31	
Initiate a task	With specific learning disabilities	3.60	0.38	-12.70**
	Without specific learning disabilities	4.63	0.33	
Attention and concentration	With specific learning disabilities	3.70	0.27	-12.12**
	Without specific learning disabilities	4.63	0.40	
Planning/ Prioritize	With specific learning disabilities	3.72	0.24	-10.38**
	Without specific learning disabilities	4.51	0.41	
Organization	With specific learning disabilities	3.66	0.30	-12.18**
	Without specific learning disabilities	4.58	0.36	
Time management	With specific learning disabilities	3.57	0.37	-13.54**
	Without specific learning disabilities	4.60	0.30	
Flexibility	With specific learning disabilities	3.70	0.29	-12.38**
	Without specific learning disabilities	4.60	0.34	
Meta cognition	With specific learning disabilities	3.73	0.33	-11.71**
	Without specific learning disabilities	4.58	0.31	
Goal-directed perseverance	With specific learning disabilities	3.70	0.28	-12.07**
	Without specific learning disabilities	4.60	0.37	
Resistance to pressure	With specific learning disabilities	3.75	0.27	-10.17**
	Without specific learning disabilities	4.55	0.41	

p*<.05, *p*<.01, ****p*<.001.

Source: Author.

Table 2. Average executive functions, standard deviation, and two-way ANOVA by research group and gender (N=80).

Variable	With specific learning disabilities		Without specific learning disabilities		Group <i>F</i> (1, 76)	Gender <i>F</i>	Interaction			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>						
Factors of executive functions										
	Attention and concentration	Boys	3.66	0.23	4.78	0.29	152.80**	3.59**	8.46**	F
		Girls	3.74	0.31	4.43	0.45	0.66	0.045	0.100	η^2
Time management		Boys					195.46**	0.967**	0.204	F
		Girls	3.66	0.38	4.55	0.29	0.72	0.01	0.062	η^2

p*<.05, *p*<.01, ****p*<.001.

Source: Author.

than students without specific learning disabilities. On neuroticism, students with specific learning disabilities scored significantly higher than students without specific learning disabilities.

Interaction between personality traits in boys and girls with and without specific learning disabilities

To test the fourth hypothesis, this study analyzed

differences in personality traits between students with and without specific learning disabilities by gender. Only two measures-neuroticism and agreeableness-showed statistically significant interaction (Table 4). The information in Table 4 and Figures 4 and 5 shows significant interaction for neuroticism and agreeableness. Similar to the findings for the third hypothesis, on average, students (boys and girls) with specific learning disabilities scored significantly higher on neuroticism than

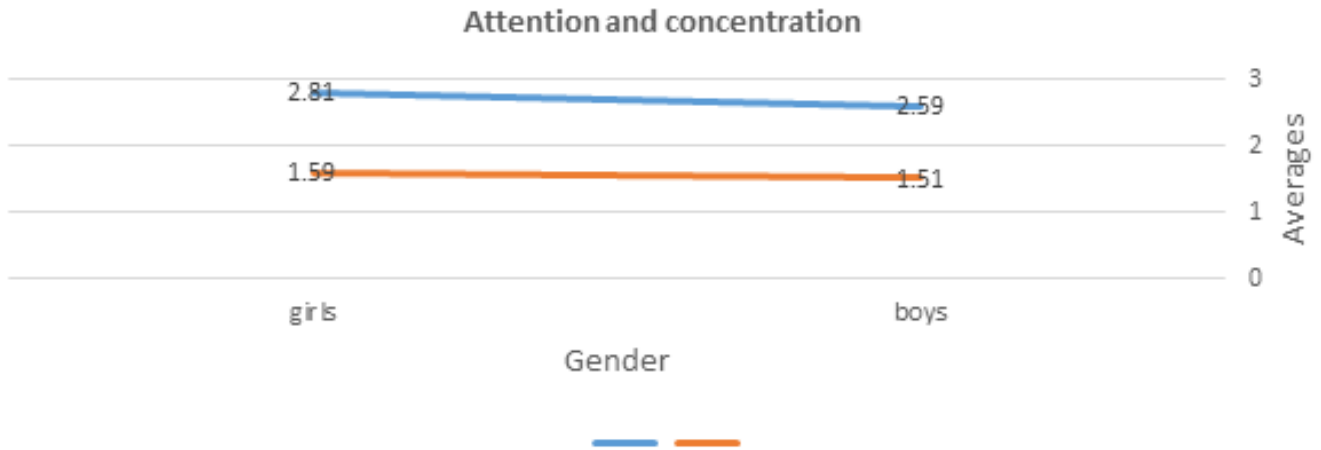


Figure 2. Average attention and concentration by gender (N=80).
Source: Author.

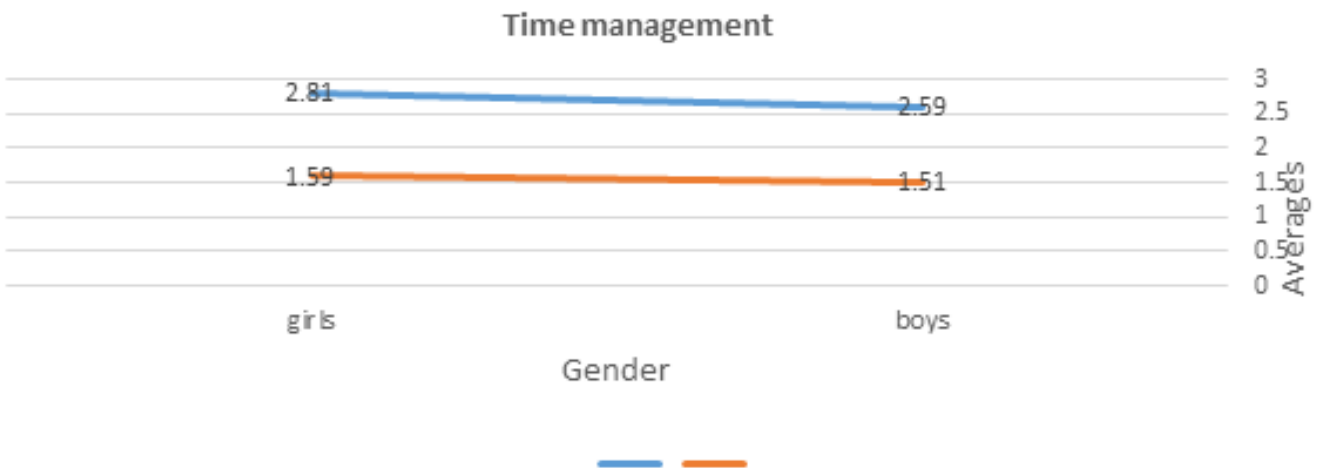


Figure 3. Average time-management by gender (N=80).
Source: Author.

Table 3. Average, standard deviation, and t-test for executive functions in students with and without specific learning disabilities (N=80).

Variable	Group type	Mean	SD	Total
Extroversion	With specific learning disabilities	3.28	0.19	-23.68**
	Without specific learning disabilities	4.41	0.22	
Neuroticism	With specific learning disabilities	2.69	0.22	23.90**
	Without specific learning disabilities	1.54	0.19	
Personality traits Agreeableness	With specific learning disabilities	3.18	0.22	-24.07**
	Without specific learning disabilities	4.33	0.20	
Conscientiousness	With specific learning disabilities	3.20	0.21	-23.34**
	Without specific learning disabilities	4.29	0.20	
Openness	With specific learning disabilities	3.50	0.12	-29.22**
	Without specific learning disabilities	4.53	0.18	

*p<.05, **p<.01, ***p<.001.
Source: Author.

Table 4. Average measures of personality traits, standard deviation, and two-way ANOVA by research group and gender (N=80).

Variable	Factors of personality traits	With specific learning disabilities		Without specific learning disabilities		Group <i>F</i> (1, 76)	Gender (<i>F</i>)	Interaction	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Neuroticism	Boys	2.59	0.21	1.51	0.18	653.78**	11.59**	2.33**	F
	Girls	2.81	0.18	1.59	0.21				0.89
Agreeableness	Boys	3.22	0.20	4.34	0.20	570.70**	0.967**	0.613**	F
	Girls	3.14	0.24	4.33	0.21				0.88

p*<.05, *p*<.01, ****p*<.001.
Source: Author

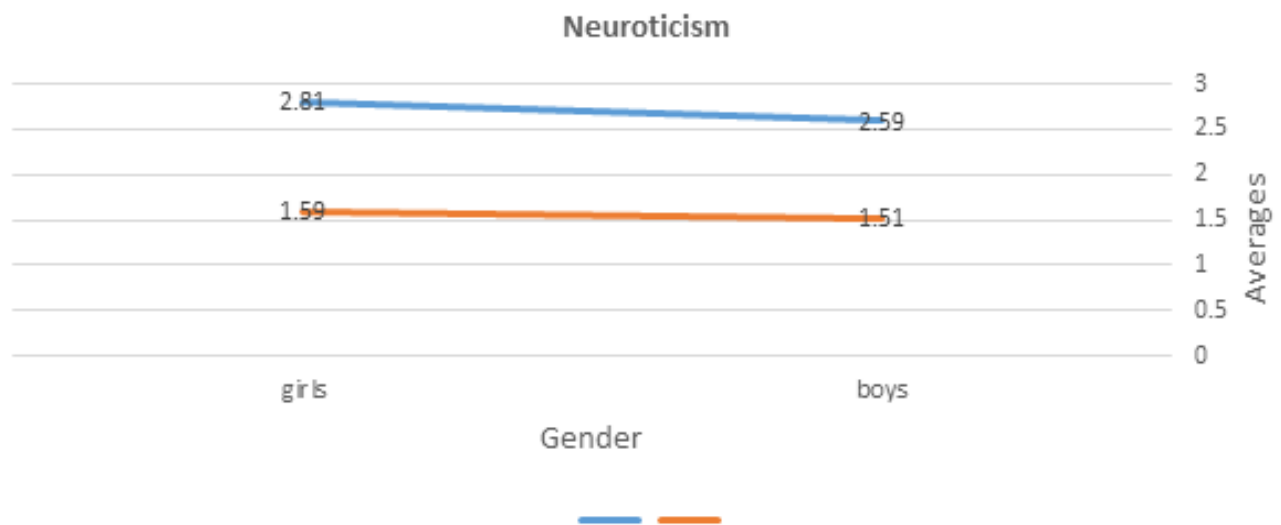


Figure 4. Average neuroticism by gender (N=80).
Source: Author.

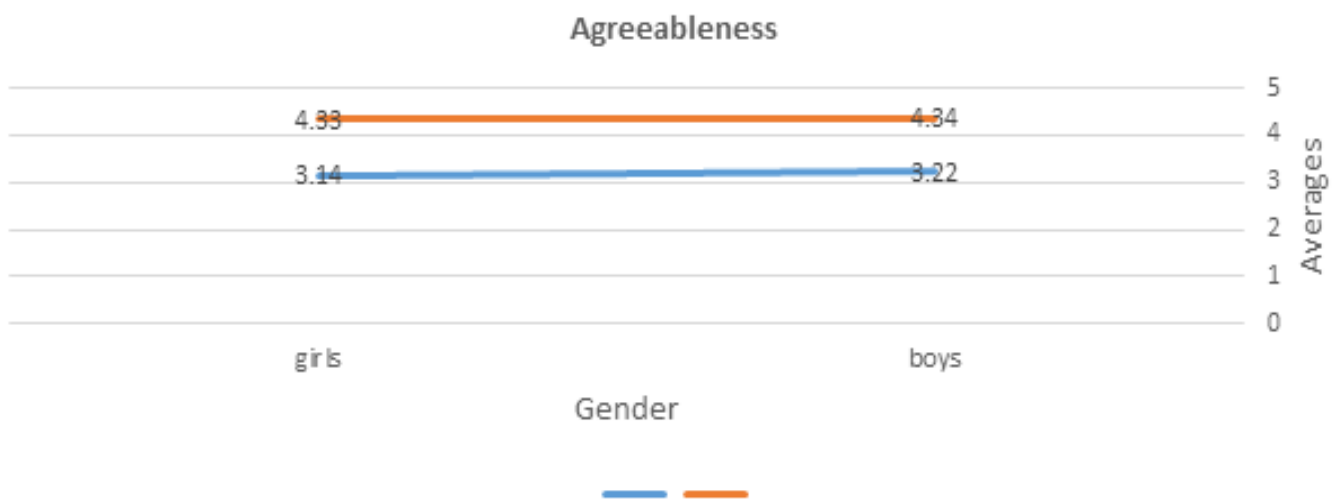


Figure 5. Average agreeableness by gender (N=80).
Source: Author.

Table 5. Correlation between executive functions and personality traits (N=80).

Variable	With a specific learning disability (n=40), Without specific learning disability (n=40)				
	Extroversion	Neuroticism	Agreeableness	Conscientiousness	openness
Response delay	-0.153*	-0.057*	0.063	-0.003	0.145
	-0.018	-0.276	-0.129	0.238	0.182
Emotional control	0.013*	0.280	-0.067	-0.054	0.281
	-0.169	-0.088	-0.258	-0.024	0.057
Initiate a task	0.142	-0.133	0.088	-0.039	-0.331*
	0.280	-0.024	0.305	0.094	-0.027
Organization	-0.143	0.015	-0.142	-0.187	-0.052
	-0.083	-0.469**	0.56	-0.029	0.249
Meta - cognition	-0.201	0.160	0.187	-0.334*	-0.129
	0.255	-0.004	0.239	0.011	0.016
Goal-directed perseverance	0.068	0.327*	-0.456**	0.090	0.022
	-0.051	-0.212	-0.129	0.030	0.260
Overall index	0.138	0.048*	0.053	-0.213	-0.034
	0.261	-0.318	0.122	-0.081	0.235

*p<.05, **p<.01, ***p<.001. Note: In the table cells, the section above the diagonal refers to students with specific learning disabilities and the section below the diagonal refers to students without specific learning disabilities.

Source: Author

students without specific learning disabilities. On agreeableness, on average, boys and girls without specific learning disabilities scored significantly higher than boys and girls with specific learning disabilities. Also, girls with specific learning disabilities scored higher on neuroticism and lower on agreeableness than boys with specific learning disabilities.

Association between executive functions and personality traits

To test the fifth hypothesis regarding significant correlations between executive functions and personality traits Pearson correlations were calculated. Table 5 shows correlations between executive functions and personality traits in the two groups. Table 5 shows significant associations between response inhibition and extraversion and neuroticism, between emotional control and extraversion, between task initiation and openness, between organization and neuroticism, between meta-cognition and conscientiousness, between goal-directed persistence and neuroticism and agreeableness, and between the overall index (average of all factors) and neuroticism.

DISCUSSION

This study aimed to test associations between executive functions, gender, and personality traits in students with and without specific learning disabilities. According to the first hypothesis, students with specific learning disabilities were expected to have weaker executive functions

compared with students without specific learning disabilities. In this study, the students with specific learning disabilities scored markedly and significantly lower than students without specific learning disabilities on most executive function measures. The literature suggests that individuals with impaired executive functions have difficulty planning, organizing, and managing their time and space. They often present weak working memory, which is an important tool in guiding a person's actions and in making plans (Bishara and Kaplan, 2016; NJCLD, 2005). These functions include self-regulation, working memory, flexibility, planning, sustained attention, and ability to grasp abstract ideas. These processes are impaired more often in people diagnosed with ADHD and hyperactivity, autism spectrum disorders, dyslexia and dyscalculia, as well as in people with depression, anxiety, and sleep disorders (Best et al., 2009; Monetten et al., 2011; Serfaty, 2016). As students with specific learning disabilities have difficulty completing tasks that rely on executive functions, they are unable to achieve the required level of knowledge and skills for their age, specifically language and auditory skills, time management, flexibility of thinking, control, and selection of appropriate sensual information (Tannock, 2013). The possible conclusion is that, in some students, in the context of executive function, learning disabilities may present as other psychopathologies. This is an important factor to consider when adapting instruction methods for these students and when setting academic expectations.

On the other hand, students with specific learning disabilities scored significantly higher than students without specific learning disabilities on emotional control.

Possibly, the specific learning disability gives diagnosed students better control of their emotions compared with their peers without specific learning disabilities (Davidson et al., 2006). This study's findings support existing research and offer new information regarding emotional control in which, surprisingly, students with specific learning disabilities scored higher than students without specific learning disabilities. Students with specific learning disabilities are shown to have relatively lower levels of executive functions, and this underscores the importance of helping these students develop their executive function related skills, as they are already struggling with many other learning-related difficulties. The second hypothesis proposed a significant interaction between executive function and gender in students with and without specific learning disabilities. The study's findings showed significant interaction on two measures (attention and concentration and time management): Students without specific learning disabilities reported better attention and concentration than students with specific learning disabilities, and boys without specific learning disabilities reported better attention and concentration than girls without specific learning disabilities. Looking at boys with specific learning disabilities, the reverse is seen—girls with specific learning disabilities have better attention and concentration than boys with specific learning disabilities. Time management in boys without specific learning disabilities was better than in boys with specific learning disabilities and girls without specific learning disabilities reported better time management than boys without learning disabilities. However, boys with learning disabilities were better at time management than girls with learning disabilities.

In general, students without specific learning disabilities reported better attention and concentration than students with specific learning disabilities, and boys without specific learning disabilities reported better attention and concentration than girls without specific learning disabilities. Looking at boys with specific learning disabilities, the reverse is seen—girls with specific learning disabilities had better attention and concentration than boys with specific learning disabilities. Time management in boys without specific learning disabilities was better than in boys with specific learning disabilities and girls without specific learning disabilities reported better time management than boys without specific learning disabilities. However, boys with specific learning disabilities were better at time management than girls with specific learning disabilities.

An earlier study that examined differences between boys and girls with specific learning disabilities in executive functions reported mixed findings regarding different measures. It seems that boys and girls are born with identical intellectual potential, and gaps develop as a result of the societal-cultural effects of education, preconceptions, expectations, and messages conveyed

by parents and educators (Oplatka and Atia, 2007). This affects the findings of the present study as the differences found between boys and girls can be ascribed to their social-cultural background.

When creating intervention programs such as a program for improving executive functions, it is also worth considering designing a gender-specific program in which some of the sessions will be gender-separate allowing girls with learning specific disabilities to receive interventions emphasizing time management, and boys with specific learning disabilities to concentrate on improving attention and concentration. According to the third hypothesis, students with specific learning disabilities were expected to have lower personality trait scores compared with students without specific learning disabilities. The present study shows that students with specific learning disabilities scored significantly lower than students without specific learning disabilities on extraversion, agreeableness, conscientiousness, and openness and scored significantly higher on neuroticism. A possible explanation for these differences is that a child's specific learning disability makes them feel more stressed, neurotic, and restless than their peers without learning disabilities. In their 2016 study, Brown and Cinamon note that many parents of adolescents with learning disabilities make decisions for their children who are at school, particularly in academic matters. Consequently, these children may have fewer opportunities of setting goals, developing initiative, and planning activities. The researchers suggest this could explain why they found that adolescents with learning disabilities were less likely to develop extraversion, openness, and conscientiousness. The same explanation may apply to the findings in the present study, and the validity of this proposition may be examined in future studies by cross-referencing the data with information from the parents. The fourth hypothesis proposed a significant interaction between personality traits and gender in students with and without specific learning disabilities. Our results show significant differences between genders on neuroticism and agreeableness only. For neuroticism, students with specific learning disabilities were generally more neurotic than their peers without specific learning disabilities, and girls with specific learning disabilities were significantly more neurotic than boys with specific learning disabilities. No gender difference was seen in the children without specific learning disabilities. As proposed above, it is possible that the difficulties that students with specific learning disabilities experience make them more neurotic, i.e. they worry more, and are more anxious and depressed. Students without specific learning disabilities scored higher on agreeableness than students with specific learning disabilities and there was no gender difference. However, girls with specific learning disabilities showed lower agreeableness than boys with specific learning disabilities.

The literature paints a similar picture. Amitay and Gumpel (2014) studied boys and girls with learning disabilities in acute distress who had been placed in Youth Authority institutions for medium and long-term care and compared them with teens in the general educational system who had no learning disabilities. They found that the girls with learning disabilities showed more severe emotional-behavioral indices than girls without learning disabilities. They also found significant differences in personality and emotional indices between the boys with and without learning disabilities. The fifth hypothesis proposed an association between level of executive function and personality traits in the study populations. This study shows significant correlations between specific executive functions and personality traits (response inhibition correlated with extraversion and neuroticism, emotional control with extraversion, task initiation with openness, organization with neuroticism, meta-cognition with conscientiousness, goal-directed persistence with neuroticism and agreeableness, and the overall index with neuroticism). A recent study that looked at the associations between executive functions and personality traits in adolescents and young people with ADHD found that ADHD greatly affected adolescent behavior and actions, making them more industrious in their work. This signifies that hyperactivity and personality traits can be useful in improving academic and social functioning in this population. These findings accentuate the association between executive functions and personality traits (Krieger et al., 2020). As presented in the theoretical background, the Big Five personality traits, executive functions, and the symptoms of the disorder are linked in many ways. The present study proposes that the explanation offered by Krieger et al. (2020) applies to students with learning disabilities too, who share some characteristics with students diagnosed with ADHD. Furthermore, the present findings are in line with evidence presented in studies from the past decade regarding the interactions between two fundamental structures: personality and cognition (such as, Curtis et al., 2015; Rammstedt et al., 2018; (Nikolašević et al., 2021), and expand our understanding of these in terms of students with learning disabilities. There is some overlap in conceptual characteristics between executive function as a cognitive measure and several personality traits, and both use similar terms to define strategies. Thus, personality traits and executive functions both play a role in daily functioning mechanisms, (Nikolašević et al., 2022) and the present findings illuminate the relationship between these variables in a particularly important and interesting population whose proportion of the general population students is on the rise.

CONCLUSIONS AND PEDAGOGICAL IMPLICATIONS

The present study has both a theoretical contribution as

well as a practical one. On the theoretical level, this study contributes to existing knowledge of the links between executive functions, gender, and personality traits in students with and without specific learning disabilities. This will hopefully expand scientific dialog and research in the areas of executive functions and personality traits, and how they are associated with gender. In practice, this study provides a basis for encouraging teachers, students, and education professionals to use executive functions to help students with specific learning disabilities to learn. Intervention programs developed specifically for students with specific learning disabilities should focus on training students to use their executive functions to boost their abilities and improve achievements. As noted, this study's results indicate that students with specific learning disabilities scored very significantly lower than students without learning disabilities on most tested measures: response inhibition, working memory, task initiation, attention and concentration, planning or prioritizing, organization, time management, flexibility, meta-cognition, goal-directed persistence, and stress tolerance. Students with learning disabilities scored significantly lower than students without learning disabilities. Moreover, the measures which showed significant interaction were attention and concentration, and time management. In view of this, developing and providing interventions at school that focus on improving these specific executive functions, with an emphasis on time management may support the learning processes of students with specific learning disabilities. Schools could incorporate in their regular schedule sessions in which students are taught skills related to executive functions for example, how to approach a school assignment, specifically: what are the steps in the process, how to plan them, how to manage the time each part requires, how to cope with failure to meet the goals. Furthermore, and in keeping with the study findings, these interventions should be gender-specific; some sessions will deliver time management skills to girls only while boys receive interventions that focus on increasing attention and concentration. Additionally, in-school professional training for teachers should address means of improving executive functions in students with specific learning disabilities and describe the important role that executive functions have in improving learning and teaching processes. Moreover, if we are able to identify the parameters associated with the behavioral pathways of using executive functions specifically to manage anxiety we may learn more about students who are at risk of developing behavior problems. In view of this, if lower achievements can be linked to weaker executive functions, the latter can serve as a beacon for identifying students at risk of developing behavioral problems associated with one or more specific executive functions. There is a need to develop executive function skills during learning, to help students improve their planning, flexible thinking, and working memory.

Study limitations and suggested future research

This study examined the associations between executive functions, gender, and personality in students with and without specific learning disabilities. It would be interesting to explore the pattern of links between these variables and other executive functions, such as control center, meta-cognitive knowledge, self-efficacy, and others. A possible limitation of this study is the use of a single self-reported instrument to assess executive functions. Traditionally, executive functions have been assessed using standard psychometric evaluations conducted in controlled environments, or using research questionnaires. Although neuropsychological indices are good indicators of cognitive components and basic performance, they generally fail to predict performance of complex real-world tasks and functioning. Consequently, evaluating executive functions using objective instruments such as the Executive Function Performance Test (EFPT) which evaluates performance of daily functions (Baum et al., 2008) may provide valuable information on subject of this research. This study principally applied quantitative methods. Future research should incorporate qualitative methods, such as interviews with students and their teachers, to provide a broader perspective and validate the present study's findings regarding the link between executive functions, gender, and personality traits in students with and without specific learning disabilities.

Moreover, as studies point to development of executive functions and personality traits being age dependent, future research can benefit from longitudinal studies that follow changes in executive functions and the way these changes are linked to personality traits and gender differences. It is also advisable to design intervention programs specifically for students with specific learning disabilities that focus on teaching executive function skills and on development of personality traits in ways that will help raise motivation and achievements.

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CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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