**“I am all worn out, I can’t go on”: A dangerous cascade from autistic burnout to depression and suicide suicidal ideation**

**or**

**“I am all worn out, I can’t go on”: A complex dynamic between autistic burnout, depression and suicidal ideation”**

**Scientific abstract**

Autistic Burnout (AB), characterized by emotional exhaustion, sensory overwhelm, and feelings of inadequacy, has recently gained recognition for its impact on high functioning (HF) individuals on the autism spectrum. However, the antecedents contributing to autistic burnout, the potential connections between autistic burnout, depression and suicide ideation remain underexplored. This study seeks to address this gap by examining how autistic characteristics contribute to AB, examine differences and overlaps between AB and depression and explore the longitudinal associations between AB, depression and suicide ideation. The proposed study will advance our knowledge of unique factors and pathways that contribute to suicide risk among autistic individuals.

**Research program**

**1. Scientific background**

Autism spectrum disorder (ASD) is a life-long pervasive, clinically and etiologically heterogeneous neurodevelopmental condition. Autism is characterized by impairments in social communication, repetitive behaviors, restricted interests, and altered sensory sensitivities (APA 2013). Symptom expression and functional levels of autism are significantly heterogeneous, including highly variable cognitive and language abilities (APA, 2013). The prevalence of ASD has risen strikingly in the last two decades (Tchaconas, 2013; Myers et al., 2019), and according to estimates from the CDC’s Autism and Developmental Disabilities Monitoring (ADDM) Network, 1 in 36 eight-year-olds in the USA is diagnosed with autism (Centers for Disease Control and Prevention (CDC, 2023).

As a developmental disorder, much of the research and clinical emphasis on autism has been on early childhood (Murphy et al., 2016; Lai & Baron-Cohen, 2015). However, during adolescents and young adulthood autistic people undergo significant biological, psychological, and contextual changes such as transition to high school, and later to vocational settings (Simmons & Blyth, 1987). During the adolescence and early adulthood periods, young autistic people face difficulties due to the social demands of adolescence along with the strengths and challenges associated with autism (Humphrey & Lewis, 2008). While for many, social communication and daily living skills develop markedly during this period (McGovern & Sigman, 2005; Smith et al., 2012), research also indicates a heightened social related challenges such as suffering from bullying, and enhanced stress levels (Hebron & Humphrey, 2014; Humphrey & Lewis, 2008), and poor quality of life in comparison with the general population (Cottenceau et al., 2012; Hebron & Humphrey, 2014; Simonoff et al., 2012; Portway & Johnson, 2003). In an attempt to deal with social norms and expectations, to avoid negative responses from others and to alleviate emotional strain, autistic adolescents and young adults may try to 'act normally' and mask their autistic behaviors and differences (Bagatell, 2007, Mesa & Hamilton, 2022). This phenomenon is called social camouflaging.

While the function of social camouflaging is to integrate in social life and alleviate stress, research has shown that camouflaging attempts may contribute to mental health problems and identity confusion (Hull et al., 2021, Mandy, 2019). Identity in the context of autism entails unique issues concerning forming self-identity in light of the diagnosis. The concept of 'illness identity' is defined as the set of roles and attitudes that people have developed regarding themselves in relation to the illness they are dealing with (Yanos et al., 2010). Illness identity describes the degree to which a chronic illness is included and integrated into the person's sense of self, in an attempt to understand why some people with chronic illness experience difficulties in daily coping, while others manage to face challenges that arise as a result of their illness (Oris et al., 2016). Accepting and acknowledging the diagnosis allows better coping with the challenges arising from it and to better psychological and physical functioning (Karademas et al., 2009; Luyckx et al., 2010; Richardson et al., 2001). Oris et al (2016) refer to four dimensions of the illness identity: The first two, Rejection ( the “illness” is rejected as part of the person's identity and is perceived as a threat or unacceptable) and Engulfment ( the “illness dominates the person's identity, and invades for all areas of his life) and considered to be “negative illness identity” , whearies, the others “Acceptance” ( the person accepts the illness as part of his identity alongside other social roles, without being overwhelmed by it), and “Enrichment (the illness enriches the sense of self and allows the individual to grow as a person) and positive illness identities.

Similar to chronic health conditions, ASD is a lifelong neurodevelopmental condition and can involve 'autism identity'. Positive autistic identity was associated with higher self-esteem and better mental health (Cooper, Smith, Russell, 2017). An additional factor that is important to autistics mental health is “Autism burnout” (AB), a concept which has arisen from the autistic community in recent years (ref). The term “burnout” is often used in the literature addressing occupational burnout or more recently parental burnout. Its new use in relation to autism relates to prolonged or intense stress, overstimulation, and the effort required to navigate a world that is not well-suited to their sensory, social, emotional and cognitive needs (Higgins et al., 2021, Raymaker et al., 2021). (add sub-scales of AB?)

In the general population, occupational burnout has been related to depression and suicidality (ref). Moreover, occupational burnout literature has indicated a high correlation and overlap of symptoms between work burnout and depression (ref). However, the partial overlap of depression symptoms and work burnout does not suggest that burnout and depression are synonymous (Bianchi et al.,2020, 2021; Tavella et al., 2021; Tavella et al., 2020; Verkuilen et al., 2021). As autistic burnout is a relatively new concept, the overlaps and distinctions between “autistic burnout” and depression are yet to be explored and so are its associations to depression and suicide ideation.

While ASD is not in itself a mental disorder, it has been associated with a range of mental health problems, including anxiety, depression, and suicidality, among others. Indeed, autistic adults are at disproportionate risk of developing depression, although estimates of the rates of depression highly vary. The pooled estimation of current and lifetime prevalence for adults with ASD are 23% and 37% for depressive disorder (Hollocks et al., 2018). Symptoms may include diminished interest or pleasure in activities, fatigue, energy loss, psychomotor slowing or agitation, as well as changes in sleep and appetite, depressed mood, feelings of worthlessness or guilt. and sometimes suicidal thoughts. Psychological theories stress psychological factors regarding attitude towards the self and self in relation to others that contribute to the development of depression and suicide ideation (Beck 2005, Blatt 2004, Joiner 2005, Shahar~~,~~ 2015, Van Orden et al., 2010, Neff, 2003). In our study the concepts of positive autistic identity, self-criticism, one’s sense of burdensome and lack of belonging are all potential risk factors that have a destructive effect on the self and may foster the will to end one’s life (Joiner 2005, Shahar~~,~~ 2015, Van Orden et al., 2010). Whereas, self-compassion, on the other hand, may be a protective factor that buffers the effects of burnout and temporal decrease in functioning from having negative and pervasive effects on the self.

**ASD and suicidality**

Suicidality is highly prevalent in autistic people without co-occurring intellectual disabilities. Autistic people are twice as likely to experience suicide ideation (O’Halloran et al., 2022), and 3-6 times more likely to exhibit suicidal behavior (Hirvikoski et al. 2016; Kirby et al. 2019; Kolves et al., 2021) compared to the general population. Moreover, suicide deaths, in the autistic community, are three to sevenfold higher that of the general population (Hirvikovsky et al., 2016; Kirby et al., 2019; O’Halloran et al., 2022; Hedley, Hayward et al., 2022). Literature suggests that the known risk factors for suicide in the general population are also relevant for autistic people (Hedley et al., 2022), however, some risk factors may be more prevalent and intensified among autistics or have a unique manifestation. Risk factors that have been linked to suicidality among autistic people include: self-harm history (Zahid & Upthegrove, 2017), traumatic life events (Demirkaya, 2016; Warrier & Baron-Cohen, 2021 Pelton et al., 2020; Moseley et al., 2022, 2022b), bullying (Cou et al., 2020; Hu et al., 2019; Holden et al., 2020), loneliness (Cassidy et al., 2018; Hedley et al., 2018a, 2018b; Mournet et al., 2022), gender fluidity (Strang et al., 2021 ; Strauss et al., 2021) and psychiatric co-occurrence (Chen et al., 2017; Jokiranta-Olkoniemi et al., 2020; Strauss et al., 2021). Autistic burnout, being a new concept in the autism literature, has yet to be explored as a risk factor for suicide, and the underlineying mechanisms that it such.

Our preliminary quantitative study results confirm autistic adults without ID to be a risk group for suicide ideation and behavior. Furthermore, the results of our preliminary qualitative study indicate autistic burnout and camouflage to be highly relevant to the development of suicide ideation among autistic individuals. However, these studies did not address autistic characteristics and their relations to autistic burnout, nor did they establish the dynamic process of development of such relations through a longitudinal study.

We expect severity of autistic characteristics, camouflage efforts and negative autistic identity to contribute to AB. We suggest that AB and depression are related but conceptually distinguished from each other. However, over time, burnout may have an erosive effect on the self, which may escalate and contribute to depression and suicide ideation.

**Limitations with existing studies**

1. Conceptual limitations: While there is evidence that depression, and suicidal thoughts are linked to each other, there is lack of examination of the relation of autism burnout to these phenomena and no study have provided a conceptualization of these factores as a complex causal system.

2. Insufficient focus on the concept of autism burnout: While the term burnout has been used in the literature in relation to vocational stress or parenthood challenges, this term only recently has been used in the literature in relation to Autism. As a result, research that addresses autism burnout is scarce. Research therefore has not yet identified the prevalence of autism burnout nor did it thoroughly investigate its antcendents and its consequences. Beyond understanding how burnout builds up in autistics and what are the risk factors for such build up, it is of crucial importance to assess its potential prediction of depression and suicide ideation.

3. Methodological limitation: the paucity of existing studies that address autism burnout have been cross-sectional, and none of them include longitudinal design. Existing research has therefore not yet identified within-person processes, and dynamic interactions of depression, burnout and suicidality. As a result, important questions regarding the ways such factors may interact to impact the mental health and well being of autistic people are left unanswered. An implementation of a longitudinal study may allow investigation of complex interactions of these factors, as well as potential causality.

**Research objectives**

Our first objective is to examine antecedent factors contributing to levels of autistic burnout. We specifically would like to investigate how (a) the diagnostic characteristics of autism, namely deficits in social communication and social interaction and restricted, repetitive patterns of behavior, interests, or activities including hyper- or hypo-reactivity to sensory input are related to AB, (b) how autism efforts for inclusion and specifically autism camouflage are related to AB and ( c) how negative versus positive autism identity is related to AB.

Our second objective is to unravel the tangle between autistic burnout and depression

Finally, our third objective is to examine the pathway between autistic burnout and suicide ideation. To achieve these objectives, we propose a set of 3 studies.

**Research Aims**

**Study 1 aim: Examine the contribution of autism diagnostic characteristics, autism identity and camouflage of autistic traits to autistic burnout.**

This study will assess autism diagnostic characteristics using The Autism Diagnostic Observation Schedule (ADOS) as well as camouflage and autistic identity using standardized self-report related measures. The unique contribution of each of these factors to levels of autistic burnout will be examined, and interactions between the factors will be part of the predicting model as well.

**Study 2 aim: Map overlaps and differences between autistic burnout and depression symptoms**

While the new concept “autism burnout” is distinguished from depression in autism, they may have some overlaps (Arnold et al., 2023). Furthermore, according to our preliminary results it is of high priority to distinguish the two as professionals confuse them while treatment of each highly differs. Thus, in this study we aim to investigate the overlaps and differences between these two constructs in order to develop differential diagnosis guidelines. To address this aim we will use a mix method methodology including both quantitative and qualitative studies.

2.1 This study will use factor analysis to explore overlaps and differences in sub-components of autistic burnout (exhaustion, withdrawal, cognitive disruption, heightened autistic self-awareness) and depression (depressive affect, somatic symptoms, positive affect, interpersonal relations).

2.2 To get a further perspective of differences and similarities between the concepts of AB and depression we will use a qualitative design. (a) We will investigate autistics forums on social media platforms to extract posts addressing burnout or/and depression. (b) We will further conduct in depth interviews with autistic adults regarding their “depression experiences” and “autism burnout experiences” to further explore the differences and similarities between these concepts from their point of views.

**Study 3 aim: Exploring the pathways between burnout and suicidal ideation in autism**

3.1 The goal of this study is to chart the developmental pathway and trajectory between burnout, depression and suicide ideation, while considering moderating factors. We will explore these pathways over time through a longitudinal study. We assume that autistic burnout may lead to depression, but take into account the option that depression contributes to autism burnout. We assume that suicidal thoughts may be strongly related to both depression and autism burnout.

3.2 To get a deeper perspective we will also conduct in depth interviews with autistic adults that participated in the quantitative phase of study 3.1, and scored high on AB and have experienced suicide ideation (and are willing to take part in a qualitative study).

**Expected significance of the proposed study**

The study will shed light on the mechanistic pathways that link autistic burnout to depression and the emergence of suicide ideation. Such evidence are essential for developing a comprehensive theory of understanding suicide risks among autistic people, and carry applied significance for developing effective suicide prevention interventions that target relevant constructs among autistic people.

**Working hypothesis**

1. Autism diagnostic characteristics, social communication difficulties, repetitive behaviors, sensory sensitivity will contribute to autistic burnout. Camouflage of autistic traits will contribute to autistic burnout while positive autistic identity will buffer autistic burnout.
2. 2.1 The components of burnout - exhaustion and withdrawal will be strongly correlated loading on a single factor with the components of depression - somatic symptoms, interpersonal relations. Whereas the remaining components of each concept ( burnout - cognitive disruption, heightened autistic self-awareness; depression - depressive affect) will be only partly correlated and will load different factors.

2.2 qualitative research question: How do autistic adults experience depression, and how do they experience autistic burnout?

1. 3.1 The predictive model of suicide ideation, will demonstrate the prospective values of autistic burnout and depression over time, while controlling for background variables.

3.2 qualitative research question: How has burnout experience affected well-being?

**2. Research design and methods (participants, measures, procedure, analytic strategy – by study)**

Given the subjective nature of the constructs to be investigated, we will utilize an explanatory sequential mixed methods design model, which will include quantitative data collection followed by qualitative in-depth interviews and relevant social-media posts review to add a deeper understanding and contextualization to the quantitative data.

The research will be conducted according to the community-based participatory research (CBPR) principals. That is, autistic community members will participate in different aspects throughout the study. Regular meetings via zoom and written communication via WhatsApp as part of the “Collaborative Lab for Suicide Prevention among the Autistic Community” will be held between the researchers and autistic community members.

Indeed, preliminary collaborations of the researchers with members from the autistic community helped shape this grant proposal as the topic and the variables of focus in the current study were initially raised by our community partners.

In the current proposal, the collaborative group reviewed the initial draft, which was refined following their comments. Two community experts provided support letters for the current proposal. community experts will assist in the recruitment process for this study. Following, during collection collaborative group meetings will be held to discuss the process, results and future steps for implementation.

For the quantitative longitudinal study, data will be collected at 4 time points over a one year period. At T1 a face to face session will be held to collect all study variables and background variables. Participants will receive an extensive explanation of the study’s aims and procedure, and sign consent forms. Following, the research team will administer the ADOS to confirm diagnosis and evaluate autistic diagnostic characteristics. The remaining self-report measures and background variables will be filled out together with the participant to make sure they understand each question. The following 4 time points of data collection will include all study variables with the exclusion of autistic diagnostic characteristics and background variables (which are not time sensitive). This data will be collected either via a zoom session or face to face according to the participants preference. Participants will receive a gift card of 600 shekel as compensation for their time and effort at the completion of participation in the study (i.e fill the questionnaires all 4 times). The recruitment of participants will be via social media, in facebook groups of the autistic community such as “Autistic and other vegetables” and “High functioning autistic”.

**Data analysis**

**Study1** is designed to examine the contribution of social communication difficulties, repetitive behaviors, sensory sensitivity, autistic camouflage and autistic identity to autistic burnout.

Data from T1 will be analyzed using regression models. Power calculation…

**Study 2.1** is designed to examine the overlaps and differences in AB and depression symptoms. Factor analysis of the subscales of AB and depression will be utilized to explore if each of the subscales load of single or multiple factors.

**Study 2.2** is designed to bring the experience and voice of the autistic community, focusing on AB and its similarities and distinctions from depression. As there has been substantial public conversation about autistic burnout on social media platforms, we will analyze posts addressing both autistic burnout and depression. Using a list of 19 sources that our community partners felt were key sources for information (Table 1), we will review posts published in the last ten years (2013 - 2023 ). Posts will be analyzed using thematic analysis (ref).

The second qualitative part of this study, namely the in depth interview, will

**Study 3.1** (To consult Sandra re exploratory data analysis) was designed to explore the prospective trajectory of AB, depression and suicide ideation. Using the 4 time point measurements Linear Mixed Effects Models (LMMs) will serve as the analysis technique for the longitudinal data. These models will assess whether changes in autistic burnout scores predict changes in depression or vise verse, and whether each of these constructs will predict suicide ideation scores ver time, while considering individual variability and potential covariates. Fixed effects (e.g., time, baseline scores) and random effects (individual differences) will be incorporated into the model. Moderation Analysis will be included in the LMMs to examine moderation effects, exploring how self-criticism and autistic identity mediate the relationship between changes in autistic burnout, depression and suicide ideation. In addition, Longitudinal Change Analysis (Growth curve modeling or latent growth curve analysis) will be conducted to explore the average rate of change and individual variability in change trajectories for both autistic burnout and depression. Controlling for Covariates: Covariates such as age, gender, support level, and baseline severity of depressive symptoms will be included in the LMMs to account for potential confounding.

**Study 3.2** was designed to get a qualitative perspective of the participants regarding depression and burnout symptoms. It is aimed to throw further light on the potential pathways connecting AB and to depression to suicide ideation. Twenty in depth interviews will be held with participants from study 3.1 who ill consent to be approached for a followup study and reported high burnout levels and suicide ideation at least at one of the time points of data collection. Participants will be invited to share their experience about their burnout and the way it affects them emotionally and in functioning in daily life. They will further be asked about the difficulties they face which lead to their suicidal thoughts. Interviews will be analyzed using thematic analysis.

**Measures:**

Baseline measures:

Demographic background: Participants will be asked to indicate their age, occupational status, housing status, relationship status, whether they have been formally diagnosed with ASD and when, if they have co-occurring conditions, what is their gender identity and sexual orientation, and exposure to traumatic life events.

Life Events Checklist for DSM-5 (LEC-5) (Gray, Litz, Hsu, Lombardo, 2004) will assess exposure to 17 different types of traumatic events.

Autistic characteristics - ADOS2

Adult Sensory profile (Dunn,...

Autistic identity - Illness Identity questionnaire (AIQ) (Oris et al., 2016; 2018) is a self-report 25-item measure, comprised of four dimensions (1) Rejection of autism as part of one's identity, (1) Engulfment - the autism dominates the person's identity, (3) Acceptance of autism as part of identity alongside other social roles, (4) Enrichment experiences due to autism as part of identity. We will use the adaptation of this tool to autism constructed with authors’ permission. Autistic Burnout Severity Items (ABSI) (Arnold et al., 2023), a 20 items scale composed of four factors (exhaustion, withdrawal, cognitive disruption, heightened autistic self-awareness) will assess autistic burnout.

Depression will be assessed using two measures each addressing depression symptoms in a different way, both are highly used in the field. This is necessary because the research aim in study 2 is to differentiate between symptoms of AB and depression thus have two measures will aid in gaining a more refined perspective on depression symptoms.

(1) The Center for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977), a 20-item inventory comprised of four subscales (depressive affect, positive affect, somatic complaints, interpersonal problems) and (2) The Patient Health Questionnaire-9 (PHQ-9) (Kroenke, Spitzer, & Williams, 2001), is comprised of 9 items which assess major depression disorder according to DSM criteria .

Suicidal Ideation Attributes Scale-Modified (SIDAS-M) (Hadley et al., 2023), is a five-item scale which is used to assess suicide ideation.

Self-criticism subscale in the Depressive Experiences Questionnaire (DEQ-SC6) (Rudich et al., 2008), a 6- item measure will assess self-criticism.

The Camouflaging Autistic Traits Questionnaire (CAT-Q) (Hull et al., 2019), a 25 items scale will assess Camouflaging.

The Beck Hopelessness Scale (BHS) (Beck et al., 1974), a 20-item scale will assess hopelessness. (Beck AT, Weissman A, Lester D, Trexler L. The measurement of pessimism: The Hopelessness Scale. J Consult Clin Psychol. 1974; 42(6): 861–865. pmid:4436473)

The Interpersonal Needs Questionnaire (INQ) (Van Orden KA, Cukrowicz KC, Witte TK, & Joiner TE (2012) a 27 items scale comprising two subscales (Thwarted belongingness and perceived burdensomeness).

Follow-up measures

Starting two months after the baseline survey, participants will complete follow-up questionnaires every three months for a one-year period. The questionnaires will address temporarily sensitive variables, including burnout, depression, suicide ideation, camouflaging, hoplessness, but will not include the demographic and autistic characteristics questions which will be administered at T1 only. Data at T1 will be administered face to face to ensure participants understand the questions and to offer assistance if necessary. Measures at the remaining time points (T2-T6) will be administered online (or face to face- according to participant’s preference).

**3. Preliminary results supporting the rationale and feasibility of the proposed study**

Two previous recent studies provide preliminary results that support the current proposal. Both of these studies were not published yet. Study 1 was the first Israeli survey on suicide thoughts and attempts in autistic people. It included quantitative information about suicide ideation, suicide attempts and seeking help among autistic adults without intellectual handicaps. A brief survey on autistic traits, suicide risk and help seeking during suicide crisis was developed with autistic community members. The Suicidal Behaviours Questionnaire-Autism Spectrum Conditions (SBQ-ASC) (Cassidi et al., 2021) was used to assess suicide ideation and attempts, The Autism Quatient (AQ; Baron-Cohen et al., 2001) was used to assess autistic traits. A total of 93 autistic adults ages between 18 and 70 years (M=34.49, SD= 10.96) participated in this study. Results indicated that 96.8% of participants have experienced suicide ideation at some point during their lives, 67.7% reported having suicide thoughts during the past 12 months. See figure 1 for suicidal thoughts prevalence and see Figures 2, 3 for the frequency and duration of suicidal thought during the past year.

Two thirds of participants reported attempting suicide during their lifetime, and 4.3% attempted suicide during the past year. Forty percent reported disclosing SI/SA to a family member or spouse, 35% reported disclosing to a friend and 44% reported disclosing to a professional. 15% reported they feared disclosing SI/SA, and 5.3% reported they did not have anyone to tell.

Study 2 was a qualitative study that included 2 focus groups, each composed of 5 community activists that discussed “what are important topics to study in the field of suicide prevention among the autistic community”. The community experts identified autistic burnout and camouflage to be two key factors that contribute to suicidal risk in autistic people, but are not known enough thus important to be studied. Following are several quotes from the participants in the focus group illustrating this theme:

-“*Professionals who study autism don’t know enough about autism, and don’t know anything about autistic burnout. They confuse it with depression, but it’s different and it should be treated differently… it leads to suicide*” (M).

-“*Understanding autistic burnout is important to suicide prevention as it can rapidly lead to suicidal thoughts. That’s what happened to me, I didn’t understand why I was so worn out and couldn’t go on. Connecting to the autistic community abroad, (there wasn’t one here at the time) and learning burnout saved my life*” (S).

-“*So many autistics are burned-out, even from an early age, as the world is not well suited for us, on every level even the intensity of light and sound, so you are not sure if you have a place in this world, with your room being the only place you can control and that can really create a will to disappear from the world*” (E).

Preliminary findings from these two studies, provide support for the feasibility and rationale for the proposed study. Study 1 demonstrates autistic community to be at elevated suicide risk. However it did not measure potential constructs that affect suicidality such as burnout, autism identity and camouflage effect. Study 2 pointed to camouflage and AB to be highly relevant to understanding suicide risk among autistics.

Fig 1. Frequency of suicidal thoughts levels during lifetime (n=93)

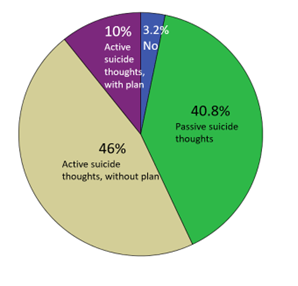


Fig 2. Frequency of suicidal thoughts among those who experiences suicide ideation during the past year (n=58)

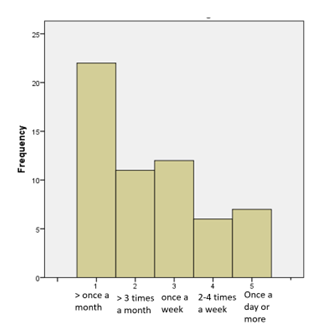
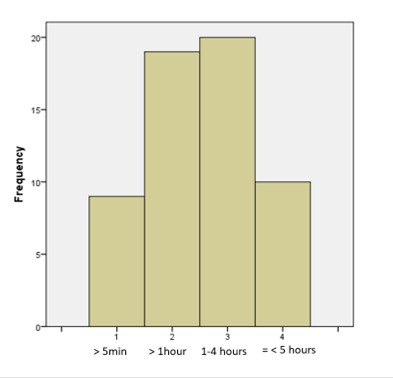


Fig 3. Duration of suicidal thought among those who experiences suicide ideation during the past year (n=58)



**Ethical considerations**

Participants will be autistic individuals without intellectual disabilities, over the age of 18 that do not have a guardian. Identifying details, email and phone number, will be kept separated from the data. We will use standardized questionnaires that have been used widely in previous studies. Furthermore, previous studies indicated that the assessment of suicide thoughts and behaviors does not have an iatrogenic effect on study participants (For a meta-analysis see DeCouamp & Schumann, 2018).

However, given the sensitivity of the research topics (i.e depression and suicidal thoughts), in case of related stress, participants will be offered the ability to contact the first researcher (JB) who is a clinical psychologist and an expert in suicide behaviors, via phone or email. The team will then refer the participant to receive relevant professional help.

**4. Available resources**

Dr. Benatov and Prf. Gal are researchers at the University of Haifa, together they bring complementary expertise and knowledge to the current proposal.

Prof. Gal is an Occupational therapist and an Autism expert. She heads the autism laboratory at the University of Haifa. She investigates sensory features, pain perception, autism identity, and self-injury in autism. She co-authored the Springer book “ Repetitive and Restricted Behaviors and Interests in Autism Spectrum Disorders: from Neurology to Behavior” (2021). She has authored over 100 publications, and was involved in the organization of various autism conferences, and presentations. Prof. Gal has supervised numerous graduate students, mostly regarding ASD.

Dr. Benatov is an expert in mental health, depression and suicidality. She is a faculty member at the department of special education at University of Haifa, and a research fellow at Geha Mental Health Center. She is co-founder of the “Collaborative Lab for Suicide Prevention among the Autistic Commuity” and recently organized with colleagues a conference on suicide prevention among autistic individuals held in Israel. In addition, Dr. Benatov is a clinical psychologist, experienced in clinical suicide risk accessment and psychotherapeutic treatment. She serves as a consultant and an instructor for the National Suicide Prevention Program in Israel. She has methodological experience in collecting and analyzing longitudinal data (Benatov et al., 2021). She has published 30 peer review publications and has given many conference presentations. Dr. Benatov is experienced in leading research teams and has supervises post-doctoral, doctoral and masters students.

(add community experts as consoltants)

5. **Expected results and Pitfalls**

The study is expected to shed light on the newly used term “autism burnout” and identify its relation to depression and the emergence of suicide ideation.

In the future, we expect to use this required basic knowledge for developing a comprehensive theory of understanding suicide risks among autistic people, and apply it for developing effective suicide prevention interventions for autistic people that target constructs that are specifically relevant for this population.

As these topics are highly subjective by nature, we will have to study them using self-report questionnaires and interviews. Self report questionnaires, however, may pose a challenge for autistic individuals due to their challenges. To address this potential pitfall we use standardized measures that have been applied in previous studies among autistic individuals. To ensure that participants understand the questions data collection will be done in the presence of a research assistant that can assist and explain questions to participants if needed.

Refrences:

[ [גב4]Shahar, G. (2015). *Erosion: The psychopathology of self-criticism*. Oxford University Press, USA.

[גב5]Blatt, S. J. (2004). *Experiences of depression: Theoretical, clinical, and research perspectives*. American Psychological Association.

[גב6]לקצר לתקציר. להכניס מלא למבוא

[גב7]המיקוד בשחיקה הוריד את המשקל של אובדנות בהצעה. אפשר בקלות לשאול למה אתם בודקים דיכאון ואובדנות ולא בעיות החצנה, התקפי זעם. הבחירה נראית שרירותית.

[ביש8]Newell, V., Phillips, L., Jones, C., Townsend, E., Richards, C., & Cassidy, S. (2023). A systematic review and meta-analysis of suicidality in autistic and possibly autistic people without co-occurring intellectual disability. *Molecular autism*, *14*(1), 1-37.

[E9]להכניס camouflage

[E10]לבדוק

[גב11]Shahar, G. (2015). *Erosion: The psychopathology of self-criticism*. Oxford University Press, USA.

[גב12]Blatt, S. J. (2004). *Experiences of depression: Theoretical, clinical, and research perspectives*. American Psychological Association.

**Israel, Barbara A.; Schulz, Amy J.; Parker, Edith A.; Becker, Adam B. (1998).** [**"REVIEW OF COMMUNITY-BASED RESEARCH: Assessing Partnership Approaches to Improve Public Health"**](https://doi.org/10.1146%2Fannurev.publhealth.19.1.173)**. *Annual Review of Public Health*. 19: 173–202.** [**doi**](https://en.wikipedia.org/wiki/Doi_(identifier))**:**[**10.1146/annurev.publhealth.19.1.173**](https://doi.org/10.1146%2Fannurev.publhealth.19.1.173)**.** [**PMID**](https://en.wikipedia.org/wiki/PMID_(identifier))[**9611617**](https://pubmed.ncbi.nlm.nih.gov/9611617)**.**

Gray M, Litz BT, Hsu J, Lombardo T. Psychometric Properties of the Life Events Checklist. Assessment. 2004;11:330-341.

Cassidy, S. A., Bradley, L., Cogger-Ward, H., & Rodgers, J. (2021). Development and validation of the suicidal behaviours questionnaire-autism spectrum conditions in a community sample of autistic, possibly autistic and non-autistic adults. *Molecular autism*, *12*(1), 46

Baron-Cohen S, Wheelwright S, Skinner R, Martin J, Clubley E: The autism-spectrum quotient (AQ): Evidence from asperger syndrome/high-functioning autism, malesand females, scientists and mathematicians. Journal of Autism and Developmental Disorders 2001 31:5-17.

Raymaker, D. M., Teo, A. R., Steckler, N. A., Lentz, B., Scharer, M., Delos Santos, A., ... & Nicolaidis, C. (2020). “Having all of your internal resources exhausted beyond measure and being left with no clean-up crew”: Defining autistic burnout. *Autism in adulthood*, *2*(2), 132-143.

Higgins, J. M., Arnold, S. R., Weise, J., Pellicano, E., & Trollor, J. N. (2021). Defining autistic burnout through experts by lived experience: Grounded Delphi method investigating# AutisticBurnout. *Autism*, *25*(8), 2356-2369.

**Cooper, K., Smith, L. G., & Russell, A. (2017). Social identity, self‐esteem, and mental health in autism. *European Journal of Social Psychology*, *47*(7), 844-854.**

**Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and identity*, *2*(3), 223-250.**

**Van Orden KA, Cukrowicz KC, Witte TK, & Joiner TE (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological Assessment*, 24, 197–215. doi: 10.1037/a0025358**