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Gas discharge visualisation technology for psychological research applications: A systematic review

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***Abstract*—** Gas discharge visualisation (GDV) is a nonintrusive technique that captures a person's physiological and psychoemotional status, including stress. This is through the electro-photonic emissions of fingertips placed on the surface of an impulse analyser. This study is to systematically review the GDV for psychological research applications through the PRISMA-NMA method. For the literature search, three databases, DOAJ, Scopus, and WOS, were consulted, using keyword terms, which allowed working with 20 articles published from 2002 to Feb 2025, demonstrating empirical evidence of the impact of GDV for psychological applications.
Keywords: GDV for stress measurements, GDV for psychology, Gas Discharge Visualisation

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I. INTRODUCTION

THE glow of various things in high-intensity electromagnetic fields was first detected over 200 years ago, and it has since drawn the interest of the psychological research community (Korotkov, 1985). However, it wasn't until 1995 that a technology known as gas discharge visualisation (GDV) was invented, launching this type of scientific research. Since then, extensive research has been conducted on the physical principles that cause the glow (Korotkov et al., 2010), and production of the devices has been established with software programs for medical, biological, and psychological research applications (Korotkov, 2018). It has been established that the activity of a person's autonomic nervous system is primarily responsible for determining the characteristics of the glow emanating from their cutaneous covering.

GDV uses biophotonics technology. Biophotonics is an interdisciplinary field that combines principles of physics, chemistry, biology, and engineering to study and apply the interaction between biological tissues and light. It involves using light-based technologies, such as lasers and other optical instruments, to understand, diagnose, and treat biological tissues. Applications for biophotonics include imaging techniques, microscopy, and the development of optical tools for medical diagnostics and treatment (Valverde et al., 2025).

GDV is a technique that involves capturing and analysing the light emissions of ionised gases around an object or living organism. It is often used in bioelectrography. The technique is based on the idea that the energy field around living organisms, often called the biofield, can be visualised and analysed using gas discharge visualisation cameras. These cameras capture the subtle energy patterns and changes in the gas discharge around the object or organism.

Quantum mechanics describes that energy and matter exhibit both particle-like and wave-like properties. This duality implies that electromagnetic fields can influence biological processes and that each cell in the body emits electromagnetic frequencies that are part of a broader electromagnetic field that surrounds and permeates the body, referred to as the biofield. This biofield comprises several fields that carry emotional and mental information between consciousness and the physical body. GDV is based on the idea that the biofield can be visualised and analysed using gas discharge visualisation cameras. This technology provides information on psychoemotional state and level of stress (anxiety) captured in the image being analysed (Valverde et al., 2022).

Kostyuk et al. (2010) introduced GDV as a nonintrusive technique that captures a person's physiological and psychoemotional status, including stress. This is through the electro-photonic emissions of fingertips placed on the surface of an impulse analyser. The GDV technique (Korotkov, 2004) places an object in a highly intensive electromagnetic field (EMF). The object is separated from the electrode by a dielectric – a substance that does not conduct electricity but permits an electromagnetic field. With this arrangement, if we apply a voltage between the object and the electrode, the current does not flow, but a potential difference builds up until the breakdown voltage is reached.

This is the point at which electrons around the object begin to move, and a current begins to flow along the surface of the dielectric. As they move, the electrons collide with heavier gas molecules, wrenching out electrons and emitting quanta of light (photons). Each collision results in two electrons, producing a branching tree-like light pattern. When an alternating current is used, avalanches of ionisation moving away or towards the electrode, core are overlaid upon each other. The GDV uses a camera to photograph the emitted photons and a computer program to analyse the images to determine energy levels of different electromagnetic fields that carry quantum information that can be interpreted for different applications, including stress measurements (Figure 1). Then, data is collected using a GDV device to identify the functional psychoemotional state of a person using fingertips (including stress). The analysis of natural electrophotonic emission is based on the intensity, fractality, and area of the captured images (Korotkov, 2004).

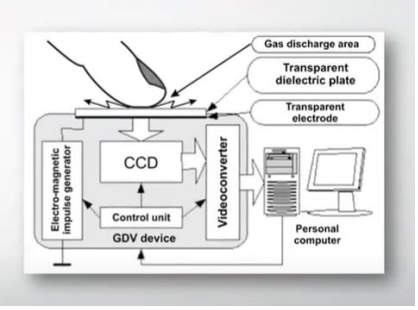

Figure 1. GDV device and camera system

Kostyuk et al. (2010) reported a study using computational bio-electrography based on the GDV technique for investigating an individual's physiological and psychoemotional functional states. The study conducted was for the evaluation of anxiety in the process of learning English as a Second Language. Rastogi et al. (2021) present a model to measure the different biophysical factors and relate them to human illness and psychological conditions such as stress. Valverde et al. (2023) propose using GDV to measure stress levels in altered states of consciousness.

Nevoit et al. (2023) present a modern biophysical perspective on the phenomenon of life in living biological systems, which consist of electromagnetic fields. These fields generate ul-tra-weak photon emission for all cells and play an essential role in communication and cell life throughout the body. Kostyuk et al. (2011) introduce GDV as a nonintrusive technique that captures a person's physiological and psychoemotional status through the electrophotonic emissions of fingertips placed on the surface of an impulse analyser. The GDV technique (Korotkov, 2004) places an object in a highly intensive electromagnetic field (EMF). The object is separated from the electrode by a dielectric (Figure 1), a substance that does not conduct electricity but permits an electromagnetic field. Applying a voltage between the objects stops the electrode current from flowing between them. Instead, a potential difference builds up until a breakdown voltage is reached.

Electrons around the object start moving at this point, creating a current along the surface of the dielectric. As they move, the electrons collide with heavier gas molecules, wrenching out electrons and emitting quanta of light (photons). Each collision produces two electrons, so branching, tree-like light patterns occur. When an alternating current is used, avalanches of ionisation move away or towards the electrode core. The GDV uses a camera to photograph the emitted photons and a computer program to analyse the images. This allows us to determine the energy levels of different electromagnetic fields that carry quantum information. This information can be interpreted for different applications, including psychology.

Bundzen et al. (2004) concluded in their studies of top athletes that an individual openness to experience influences their energy levels. Open individuals are described by Costa and McCrae (1992) as imaginative, adventurous, humorous, outgoing, curious, optimistic, and excitable, which is reflected in their energy reserves. This technology can accurately measure personality, as energy levels are linked to personality traits like openness.

II. OBJECTIVE OF THE STUDY

One way to contribute to this is through a synthesis of the available evidence on the GDV applications to psychological research; although there are no general guidelines or rules for doing so, there are various strategies for carrying them out, among which is the PRISMA method. This method can be used for systematic reviews and meta-analyses (Hutton et al., 2016), which establishes a series of steps that must be followed to carry out a systematic review that contributes to the collection and selection of research to summarise the available evidence with the least possible bias (Urrutia & Bonfill, 2010). Based on the above, the objective of the present study is to carry out a systematic review of GDV applications for psychological research through the PRISMA method.

III. METHODS

Materials

The research concentrated on many articles that referred journals have published and comply with indexing. The search considered publications from 2002 to February 2025 in title, abstract, and keywords. The following databases were used: DOAJ, Scopus, and Web of Science, with the terms gas AND discharge AND visualisation AND (psychology OR psychophysiological OR emotions OR mental OR psychiatric OR health AND psychology OR anxiety OR stress) in the title, abstract, and keyword fields.

Inclusion and exclusion criteria

The inclusion criteria were journal research articles published from 2002 to February 2025, with access to the full text that evaluates a research study that satisfies the standards of the PRISMA-NNA declaration (Hutton et al., 2016), the use of GDV for application in psychology including emotional measurements, stress measurements, mental health therapies, and psychiatric treatments. Articles not in English were excluded as exclusion criteria, and research based on literature reviews or technology discussions was not considered.

Evaluation of methodological quality

For the assessment and critical appreciation of research articles, the University of Oxford (2021) proposes worksheets as tools for its evaluation that consider, on the one hand, the internal validity of the research: sample selection, experimental design, the validity of the instruments used, research protocol and the results derived from it; and on the other hand, external validity, on the feasibility of using said GDV technologies in similar populations, diverse problems, and different contexts.

Procedure

The present systematic review was guided by the standards of the PRISMA-NNA declaration (Hutton et al., 2016), which incorporates five new items to the proposal of Urrutia and Bonfill (2010) made up of 27 items. Following the quality steps for the systematic review, the following items were considered: title (1), abstract (2), foundation (3), objectives (4), protocol and registry (5), eligibility criteria (6), information sources (7), search (8), selection of studies (9), data collection process (10), data items (11), additional analysis (16), selection of studies (17), characteristics of the studies (18), results of individual studies (20), synthesis of results (21), results of additional analyses (23), discussion (24), limitations (25) and conclusions (26). Specific items for meta-analytic review studies that were not considered are 12, 13, 14, 15, 19, 22, 27, 28, 29, 30, 31, and 32.

As previously mentioned, articles were searched with terms in specialised databases where journals are indexed worldwide. The first search was carried out considering the search words and the period in which said articles were published from 2002 to February 2025 in each of the databases contemplated for this purpose. Figure 1 shows the flow of this search, which yielded 10 articles for the Scopus database, 22 articles in WOS, and 7 in DOAJ; adding up to a total of 39 articles, 5 records that were duplicated in the different databases were eliminated, the remaining articles were evaluated according to the inclusion criteria specifically that the research was written in the English language, eliminating 1 record. With the 33 records, the abstracts and contents were reviewed to comply with the inclusion criterion referring to the scope of research studies that comply with the PRISMA-NNA declaration standard and have the objective to use GDV technology for psychology applications Once the review was completed, a decision was made to incorporate or eliminate it, leaving 20 articles in the end because either the articles did not comply with the PRISMA-NNA standards and/or fit within the scope of GDV applications to psychological research.

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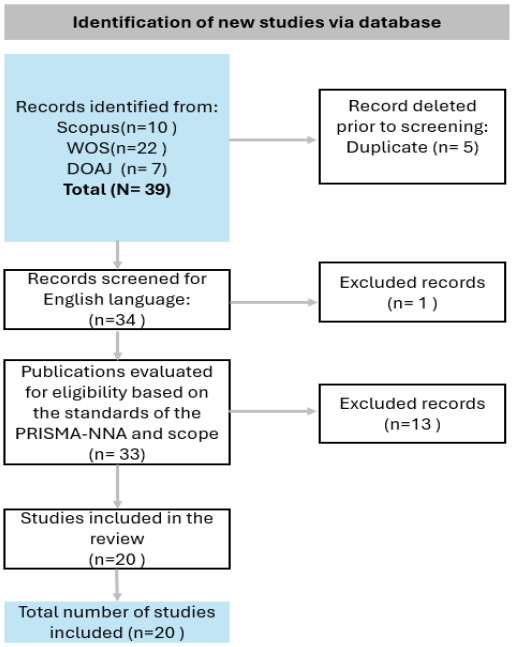

Figure 2. Flow diagram for the identification of articles about GDV application in Psychological Research

IV. RESULTS

As a result of the review and analysis of the 20 articles, Table 1 is presented, where the main characteristics and findings are described. The articles selected used sample sizes that led to statistically significant results. The table includes the GDV research psychology application, the research problem, and a summary of the results.

Table 1 Articles that include GDV for research psychological application

Author(s)	Title	Sample	Psych. App.	Research problem and main results
Skuratovskaya, M., Manohina, N., Kobrina, L., Yanovsky, M., & Dzura, S. (2020).	GDV as a method of rapid diagnostics and monitoring of the psychophysiological state of school children	20 students	Speech therapy	**Research problem:** Studying the possibility of using the GDV method for efficiency assessment of the correction, which aimed at overcoming statokinetic functions violations in younger school children with phonetic and phonemic speech disorders. **Main results:** The use of GDV makes it possible to assess the energy and functional state of children, which helps to individualize the correctional program, taking into account the psychophysiological characteristics of the child and evaluate its effectiveness. This fact allows us to assess positively the possibility of including the method of GDV in psychological and pedagogical research.
Deo, G., Kumar, I. R., Srinivasan, T. M., & Kushwah, K. K. (2015).	Changes in electrophotonic imaging parameters associated with long term meditators and naive meditators in older adults practicing meditation	309 subjects	Stress measurement.	**Research problem:** Study aims to observe effect of Anapanasati meditation and gender related differences on the electrophotonic imaging (EPI) parameters at physiological and psychophysiological level in long-term meditators and naive meditators. **Main results:** This study exhibited Anapanasati Meditation was effective and beneficial for stress reduction, this effect was measured with the help of GDV technology.
Deo, G., Kumar, I. R., Srinivasan, T. M., & Kushwah, K. K. (2016).	Cumulative effect of short-term and long-term meditation practice in men and women on psychophysiological parameters of electrophotonic imaging: A cross-sectional study	432 subjects	Stress measurement.	**Research problem:** Anapanasati is one of the meditation techniques discussed in Buddhism. In this meditation, one focuses one's attention on bodily sensations caused by incoming and outgoing breath. This study aims to track the cumulative effect of long-term meditators (LTM) and short-term meditators (STM) using electrophotonic imaging (EPI). **Main results:** In both LTM and STM, lower values of stress (activation coefficient) were found in woman meditators as compared to men measured with the of GDV technology.

Curta I., Rosca I., Marosy Z., Micu A.C. & Mohirta I. (2014).	Summary of the methods used to lower the anxiety parameter-Stress Index (T)–according to the measurements made with the GDV Camera.	32 subjects	Anxiety evaluation.	**Research problem:** Several experiments were made with GDV, focusing mainly on the Anxiety parameter – referred to as Stress Index (T). The decrease of this parameter was done through different methods: Art of Living Programme, dance therapy, music, sounds created by specially tuned crystal bowls, states changed by consciousness and the ingestion of colloidal solutions. **Main results:** The Stress Index experienced a special evolution, as there was a significant decrease for all the experiments conducted. Compared to music therapy and the consciousness-modified states, the ingestion colloidal solutions had a weaker effect.					walking in nature as a potentially helpful activity in taekwondo athletes' strategy to reduce stress levels. Thus, while coaches may choose different strategies or activities to reduce stress, for many athletes, walking in nature and natural environments helps reduce stress levels.
					Haun, J., Patel, N., Schwartz, G., & Ritenbaugh, C. (2015).	Evaluating the use of gas discharge visualization to measure massage therapy outcomes.	23 healthy adults	Stress measurements	The purpose of this study was to evaluate the short-term effects of massage therapy using gas discharge visualization (GDV), a computerized biophysical electrophoton capture (EPC), in tandem with traditional self-report measures to evaluate the use of GDV measurement to assess the bioenergetic whole-person effects of massage therapy.
Kostyuk, N., Rajnarayanan, R. V., Isokpehi, R. D., & Cohly, H. H. (2010).	Autism from a biometric perspective.	2 males and 5 females	Evaluate, some specific features associated with autism spectrum disorder (ASD)	**Research problem:** The aim of this pilot study was to test autistic children, siblings and their parents using a biometric device based on the gas discharge visualization (GDV) technique in order to assess their psycho-emotional and functional state based on the activity of the autonomic nervous system. **Main results:** The biometric method based on GDV is a promising step in autism research that may lead towards creating a disease profile and identify unique signature/biomarker for autism.	Ciesielska-Wróbel, I. L., Szadkowska, I., Masajtis, J., & Goch, J. H. (2010).	Images of corona discharges in patients with cardiovascular diseases as a preliminary analysis for research of the influence of textiles on images of corona discharges in textiles' users	96 patients	Emotional measurements.	**Research problem:** The aim of the study was to assess changes in images of corona discharges (ICD) in patients with cardiovascular diseases **Main results:** It was found that extreme emotions in persons measured with GDV had the most significant impact on images of corona discharges in patients with cardiovascular diseases
					Solovievskaya, N. L., & Korotkov, K. (2021).	Complex Method For Assessing The Psychophysiological State Of The Arctic Zone Of Russia Residents.	120 subjects	Stress measurements.	**Research problem:** For the timely detection of the people's health problems in the Arctic zone, gas-discharge visualization (GDV) was used in this study.
Boobani, B., Grants, J., Litwiniuk, A., Boge, I., & Glaskova-Kuzmina, T. (2024).	Effect of Walking in Nature on Stress Levels and Performance of Taekwondo Athletes in the Competition Period.	12 athletes	Stress measurement	**Research problem:** This study aimed to evaluate the effect of walking in nature on stress levels and performance of taekwondo athletes during the competition period. **Main results:** The findings support visiting natural environments by					**Main results:** The results obtained confirm the validity of using GDV as a promising method for evaluating the human body's psychophysiological state for further practical implementation in practical health care.

Kostyuk, N., Meghanathan, N., Isokpehi, R. D., Bell, T., Rajnarayanan, R., Mahecha, O., & Cohly, H. (2010).	Biometric evaluation of anxiety in learning English as a second language.	7 subjects	Anxiety evaluation.	**Research problem:** An application of computational biometrics based GDV for visual and quantitative evaluation of anxiety in the process of learning English as a Second Language (ESL). **Main results:** The results confirms that the computational biometrics based GDV tool may be used to evaluate and potentially identify anxiety present in ESL learners.
Augner, C., Hacker, G. W., Schwarzenbacher, S., & Pauser, G. (2010). Gas Discharge	Visualization (GDV): A Technique Based on Physical Methods and Meridian Analyses to Detect Stress Reactions and Energetic Weaknesses: Report of Ongoing Research.	9 subjects	Stress measurement.	**Research problem:** The study presents experiences with GDV, focusing on stress research as well as the application of GDV as a means of quality control in acupuncture. **Main results:** GDV allowed for a sensitive and quick detection of certain stress and relaxation reactions within the human organism. Furthermore, GDV-specific meridian analyses indicated the presence of individual energetic weaknesses. Comparisons of GDV results with biochemical parameters and stress reactions showed an apparent interrelation.
Kostyuk, N., Cole, P., Meghanathan, N., Isokpehi, R. D., & Cohly, H. H. (2011).	Gas discharge visualization: an imaging and modeling tool for medical biometrics.	2 males and 5 females	Evaluate, some specific features associated with autism spectrum disorder (ASD)	**Research problem:** The differences between autistic children and controls expressed on psychoemotional level were the most significant as compared to the other groups. Therefore, the activity of the sympathetic autonomic nervous system is significantly altered in children with autism. **Main results:** The biometric method based on GDV is a promising step in autism research that may lead towards creating a disease profile and identifying unique signature/biomarker for autism
Bundzen, P. V., Korotkov, K. G., & Unestahl, L. E. (2002).	Altered states of consciousness: review of experimental data obtained with a multiple techniques approach.	61 subjects	Altered States of Consciousness Measurement	**Research problem:** To investigate the psychophysiologic mechanisms of an altered state of consciousness (ASC) produced via systematic mental training by correlating the results of multiple computerized bioelectrographic measurements. **Main results:** All participants involved in the systematic mental training showed significant positive changes in their psychoemotional status after 7 weeks of mental training. All of the techniques showed specific changes that might be associated with an ASC in the subjects.
Korotkov, K., Shelkov, O., Shevtsov, A., Mohov, D., Paoletti, S., Mirosnichenko, D., Labkovskaya, E., .. & Robertson, L. (2012).	Stress reduction with osteopathy assessed with GDV electrophotonic imaging: effects of osteopathy treatment.	33 adult subjects	Stress measurement.	**Research problem:** The purpose of this study is to explore how osteopathy treatments influence certain measurable aspects of the human biofield; namely, various calculated parameters of finger corona discharge patterns produced by high-voltage electrophotography. **Main results:** Most of the recipients of these osteopathic treatments experienced increase in fingertip florescence area and average intensity, reduction in stress levels, and improved blood pressure measurements.
Drozdovski, A., Gromova, I., Korotkov, K., Shelkov, O., & Akinnagbe, F. (2012).	Express-evaluation of the psycho-physiological condition of Paralympic athletes.	18 athletes	Stress meausurement.	**Research problem:** Evaluation of elite athletes' psycho-physiological condition at various stages of preparation and in international competition. **Main results:** It was found that the higher the level of EP achieved by the athlete in the training period, the lower the SL in the competition time. The SL of an athlete recorded in the training period significantly

				correlates with the SL both before and at the time of competition. The PET and SL before the World Cup was negatively correlated to the results of skiing competitions.
Korotkov, K. G., Bundzen, P. V., Bronnikov, V. M., & Lognikova, L. U. (2005).	Bioelectrographic GDV measurements Correlates of the Direct Vision Phenomenon	7 subjects	Extra sensorial perception	**Research problem:** A method for training children and adults to perceive visual information without using the eyes has been developed. A study was conducted to investigate the correlation of this perceptual capacity, known as direct vision (DV), with bioelectrographic measurements. **Main results:** In multiple trials it was found that with the perception of information by DV, curves of GDV versus time exhibited specific dynamics, confirming the phenomenon of DV. At least three types of GDV characteristics can be distinguished in this state. This study also identified improvements in the psychosomatic state of children during the 7-month course of training in DV.
Mândrea, L., & Curta, I. (2019, March).	New Methods to Increase the Human Balance and Self Control.	1 subject	Stress measurements.	**Research problem:** The authors present six original measurements performed by means of a Bio Well Device after a visualization exercise. **Main results:** They lead also to an improved physic and psychic state.
Deo, G., & Kuldeep, K. K. (2015)	Effect of anapanasati meditation technique through electrophotonic imaging parameters A pilot study	51 subjects comprising 32 males and 19 females	Stress measurements.	**Research problem:** Mindfulness along with breathing is a well-established meditation technique. Breathing is an exquisite tool for exploring subtle awareness of mind and life itself. This study aimed at measuring changes in the different parameters of electrophotonic imaging (EPI) in anapanasati meditators. **Main results:** Results show significant changes in EPI parameter integral area with filter (physiological) in both right and left side, which reflects the availability of high functional energy reserve in meditators. The researchers observed similar trends without filter (psycho-physiological) indicating high reserves of energy at psycho-physiological level also. Activation coefficient, another parameter of EPI, reduced showing more relaxed state than earlier, possibly due to parasympathetic dominance. Integral entropy decreased in the case of psycho-physiological parameters left-side without filter, which indicates less disorder after meditation, but these changes were not significant. The study showed a reversed change in integral entropy in the right side without filter; however, the values on both sides with filter increased, which indicates disorder.
Kushwah, K. K., Nagendra, H. R., & Srinivasan, T. M. (2015).	Effect of integrated yoga program on energy outcomes as a measure of preventive health care in healthy people.	Ninety four healthy volunteers (male 55 and female 39)	Stress measurements.	The aim of this study was to measure the changes in stress, general health index and disorderliness in human energy pattern through Integrated Yoga Practices
Valverde, R., Gavrilova, E. A., Churganov, O. A., & Korotkov, K. G (2025)	Influence of an Amino Acid Composition enhanced with Cold Plasma Radiation on Psychological Stress: A Blood Test, Gas Discharge Visualisation and Biofeedback Approach	70 healthy people aged 35-65, men and wom	Stress measurements.	**Research problem:** This study aimed to demonstrate the effect of enhanced amino acid compositions with cold plasma on human psychological stress by using blood tests, biofeedback, and gas discharge visualisation (GDV) techniques for stress measurements. **Main results:** Blood, biofeedback, and GDV test results were presented to show differences in

		stress levels during the experiment. The results suggested that enhanced amino acid compositions significantly affected human stress levels during the longitude period

Table 2 is presented to show the number of publications identified per year from the period of 2002 to 2025.

Table 2 Number of identified publications per year from the period of 2002 to 2025

Year	N(%)	Study
2002	1 (5%)	Bundzen, P. V., Korotkov, K. G., & Unestahl, L. E. (2002).
2005	1 (5%)	Korotkov, K. G., Bundzen, P. V., Bronnikov, V. M., & Lognikova, L. U. (2005).
2010	4 (20%)	Ciesielska-Wróbel, I. L., Szadkowska, I., Masajtis, J., & Goch, J. H. (2010). Kostyuk, N., Rajnarayanan, R. V., Isokpehi, R. D., & Cohly, H. H. (2010). Kostyuk, N., Meghanathan, N., Isokpehi, R. D., Bell, T., Rajnarayanan, R., Mahecha, O., & Cohly, H. (2010). Augner, C., Hacker, G. W., Schwarzenbacher, S., & Pauser, G. (2010).
2011	1 (5%)	Kostyuk, N., Cole, P., Meghanathan, N., Isokpehi, R. D., & Cohly, H. H. (2011).
2012	2 (10%)	Korotkov, K., Shelkov, O., Shevtsov, A., Mohov, D., Paoletti, S., Mirosnichenko, D., Labkovskaya, E., .. & Robertson, L. (2012). Drozdovski, A., Gromova, I., Korotkov, K., Shelkov, O., & Akinnagbe, F. (2012).
2014	1 (5%)	Curta I., Rosca I., Marosy Z., Micu A.C. & Mohirta I. (2014),
2015	4 (20%	Deo, G., & Kuldeep, K. K. (2015) Kushwah, K. K., Nagendra, H. R., & Srinivasan, T. M. (2015). Haun, J., Patel, N., Schwartz, G., & Ritenbaugh, C. (2015), Deo, G., Kumar, I. R., Srinivasan, T. M., & Kushwah, K. K. (2015),
2016	1 (5%)	Deo, G., Kumar, I. R., Srinivasan, T. M., & Kushwah, K. K. (2016),
2019	1 (5%)	Mândrea, L., & Curta, I. (2019, March).
2020	1 (5%)	Skuratovskaya, M., Manohina, N., Kobrina, L., Yanovsky, M., & Dzura, S. (2020).
2021	1 (5%)	Solovievskaya, N. L., & Korotkov, K. (2021).
2024	1 (5%)	Boobani, B., Grants, J., Litwiniuk, A., Boge, I., & Glaskova-Kuzmina, T. (2024),
2025	1 (5%)	Valverde, R., Gavrilova, E. A., Churganov, O. A., & Korotkov, K. G (2025)

Table 3 presents the number of articles per psychological application supported by GDV. This table presents the main psychological applications researched from 2002 to 2025 with references.

Table 2 Psychological applications supported by GDV with the number of references identified

GDV psychological application	N(%)	Study
Speech therapy	1 (5%)	Skuratovskaya, M., Manohina, N., Kobrina, L., Yanovsky, M., & Dzura, S. (2020).
Stress measurement	12 (60%)	Deo, G., Kumar, I. R., Srinivasan, T. M., & Kushwah, K. K. (2015), Deo, G., Kumar, I. R., Srinivasan, T. M., & Kushwah, K. K. (2016), Boobani, B., Grants, J., Litwiniuk, A., Boge, I., & Glaskova-Kuzmina, T. (2024), Haun, J., Patel, N., Schwartz, G., & Ritenbaugh, C. (2015), Solovievskaya, N. L., & Korotkov, K. (2021). Augner, C., Hacker, G. W., Schwarzenbacher, S., & Pauser, G. (2010). Korotkov, K., Shelkov, O., Shevtsov, A., Mohov, D., Paoletti, S., Mirosnichenko, D., Labkovskaya, E., .. & Robertson, L. (2012). Drozdovski, A., Gromova, I., Korotkov, K., Shelkov, O., & Akinnagbe, F. (2012). Mândrea, L., & Curta, I. (2019, March). Deo, G., & Kuldeep, K. K. (2015) Kushwah, K. K., Nagendra, H. R., & Srinivasan, T. M. (2015). Valverde, R., Gavrilova, E. A., Churganov, O. A., & Korotkov, K. G (2025)
Anxiety evaluation	2 (10%)	Curta I., Rosca I., Marosy Z., Micu A.C. & Mohirta I. (2014), Kostyuk, N., Meghanathan, N., Isokpehi, R. D., Bell, T., Rajnarayanan, R., Mahecha, O., & Cohly, H. (2010).
Emotional measurements.	1 (5%)	Ciesielska-Wróbel, I. L., Szadkowska, I., Masajtis, J., & Goch, J. H. (2010).
Evaluate, some specific features associated with autism spectrum disorder (ASD)	2 (10%)	Kostyuk, N., Cole, P., Meghanathan, N., Isokpehi, R. D., & Cohly, H. H. (2011). Kostyuk, N., Rajnarayanan, R. V., Isokpehi, R. D., & Cohly, H. H. (2010).
Altered States of Consciousness Measurement	1 (5%)	Bundzen, P. V., Korotkov, K. G., & Unestahl, L. E. (2002).
Extra sensorial perception	1 (5%)	Korotkov, K. G., Bundzen, P. V., Bronnikov, V. M., & Lognikova, L. U. (2005).

V. DISCUSSION

Table 2 displays the number of research articles per year from 2004 to 2025. Although there seems to be a growth of publications in 2010 and 2015 (4 articles), the table can be interpreted as GDV still not being understood enough for psychological re-search applications. This reveals that there is a need for more research in psychological research, given the great potential of this technology in this field.

According to Table 3, the primary application of GDV technology is stress measurement (60% of the research). Traditionally, Biofeedback has been employed for stress assessment via several technologies (Valverde, 2016). Electrical measurements acquired from the frontal cortex serve as the basis for biofeedback. The primary aim of biofeedback is to instruct the patient in actively modifying their internal responses to influence the electrical measurements obtained during biofeedback in situations of stress and tension. GDV technology is shown in Table 2 in the articles. GDV uses a camera to photograph the emitted biophotons and a computer program to analyse the images to determine energy levels of different electromagnetic fields that carry quantum information that can be interpreted for stress measurements. GDV devices such as Bio-well generate stress indexes based on the acquired images' intensity, fractality, and area to visualise stress levels (Korotkov, 2024).

Anxiety is a feeling of fear or worry. Anxiety evaluation is another important application of GDV that is also assisted with the use of stress indexes. Kostyuk et al. (2010) used GDV for visual and quantitative evaluation of anxiety in the process of learning English as a Second

Language (ESL), and Curta et al. (2014). used a stress index decrease method to release anxiety with the use of different therapies such as dance, sound, and music therapy.

Altered states of consciousness (ASC) have been employed in transpersonal psychotherapy to address mental diseases (Valverde 2016). ASC enables the patient to explore their inner psyche; upon comprehending the origins of their issues, they seem to discover resolutions to their fears and can achieve self-healing through these transpersonal experiences. Bundzen et al. (2002) used GDV technology to measure ASC. They used the same technology to confirm significant positive changes in their psychoemotional status after 7 weeks of mental training to induce ASC in a sample of 61 participants. GDV technology has great potential for transpersonal psychology. Still, more studies are required to understand how it can be used in different transpersonal therapies and how it can be used to monitor its performance.

The potential of GDV to diagnose and evaluate mental conditions such as autism spectrum disorder (ASD) is illustrated in Kostyuk et al. (2011) and Kostyuk et al. (2010). GDV is a promising step in autism research as it may lead to creating a disease profile and identifying unique signatures/biomarkers for autism that can be used in the diagnostics of the disease.

Ciesielska-Wróbel et al. (2010) used GDV to measure extreme emotions in persons by examining the impact on images of corona discharges in patients with cardiovascular diseases. This is like Heart rate variability (HRV) devices, which measure the physiological aspects of emotions, which are crucial instruments that offer insight into the interaction between the heart and the brain (Valverde, 2016).

Speech therapy is a treatment that helps people improve their communication skills, including their ability to speak, understand language, and use their voice. Skuratovskaya et al. (2020) researched the possibility of using the GDV method to efficiently assess the correction of the psychophysiological characteristics of the child to assist in speech problems in younger school children with phonetic and phonemic speech disorders.

Extrasensory perception (ESP) refers to the ability to perceive information or events beyond the recognised physical senses, like sight, hearing, taste, touch, and smell. ESP research is part of consciousness research; the quantum consciousness model (Valverde 2016) proposes the nonlocal nature of consciousness. GDV has the potential for consciousness research, as illustrated by Korotkkov et al. (2005) in a study that trains children and adults to perceive visual information without using their eyes. The nature of consciousness is still a mystery, and GDV has the potential to uncover some of them.

VI. CONCLUSION

GDV captures a person's physiological and psychoemotional status, which can be used for several psychological applications. A systematic review of the GDV for psychological research applications was done through the PRISMA-NMA method by using three databases, DOAJ, Scopus, and WOS, consulted from the period of 2002 to Feb 2025, which demonstrate empirical evidence of the impact of GDV for psychological applications. 20 articles were identified using the search terms prepared for this specific re-search and satisfied the standards of the PRISMA-NNA declaration. Only articles in English were considered, and those that satisfied the inclusion criteria of the research studies indicated in the materials and methods section.

The review gives us a spectrum of applications of GDV for psychological research, from stress measurement, anxiety evaluation, ASD diagnosis, ASC, emotional measurements, speech therapy, and consciousness research, with significant results of benefits of using this technology.

Although technology has great potential in psychological research, only 20 articles were identified demonstrating the need to do more research on this technology and its application in psychological research.

VII. CONFLICTS OF INTEREST

There are no conflicts of interest.

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