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The Textual-Visual Thematic Analysis: A Framework to Analyze the Conjunction and Interaction of Visual and Textual Data

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Abstract

Visual methods offer an innovative approach to qualitative research through their potential to prompt dialogue, enrich verbal and textual data, and enable participants to communicate about difficult topics. However, the use of visual methods requires that researchers rethink methodological aspects of data generation and analysis, especially when working with participant-generated images. Although there are now many analytical frameworks and guidebooks providing instructions on the analysis of textual and visual materials, detailed descriptions of how these elements are brought together are often missing from research reports, precluding novice and other researchers from understanding how findings were attained. Our aim in this article is to describe and illustrate the Textual-Visual Thematic Analysis (TVTA), a framework we developed to collaboratively analyze the conjunction and interaction of textual and visual data in a photo-elicitation study. Given that the ethical and methodological aspects are deeply entwined, we begin the article by contextualizing the data obtained from the photo-elicitation study and then consider confidentiality and approaches to valuing participants' voices. Next, we share the TVTA framework, its procedural implementation, and insights derived from evolving our data analysis approach. We conclude by offering reflections on the limitations and possibilities for future research.

Keywords

data analysis, photo-elicitation, ethics, visual methods, photographs

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The Textual-Visual Thematic Analysis: A Framework to Analyze the Conjunction and Interaction of Visual and Textual Data

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Visual methods offer an innovative approach to qualitative research through their potential to prompt dialogue, enrich verbal and textual data, and enable participants to communicate about difficult topics. However, the use of visual methods requires that researchers rethink methodological aspects of data generation and analysis, especially when working with participant-generated images. Although there are now many analytical frameworks and guidebooks providing instructions on the analysis of textual and visual materials, detailed descriptions of how these elements are brought together are often missing from research reports, precluding novice and other researchers from understanding how findings were attained. Our aim in this article is to describe and illustrate the Textual-Visual Thematic Analysis (TVTA), a framework we developed to collaboratively analyze the conjunction and interaction of textual and visual data in a photo-elicitation study. Given that the ethical and methodological aspects are deeply entwined, we begin the article by contextualizing the data obtained from the photo-elicitation study and then consider confidentiality and approaches to valuing participants' voices. Next, we share the TVTA framework, its procedural implementation, and insights derived from evolving our data analysis approach. We conclude by offering reflections on the limitations and possibilities for future research.

Keywords: data analysis, photo-elicitation, ethics, visual methods, photographs

Though the first registers of visual research emerged from ethnographic works using photography in the 1940s, over the last decade researchers have been enhancing their visual methodologies repertoire and applying it to various fields of study such as cultural studies, art research, health studies, and psychology (Waycott et al., 2015). Recently, visual methods have also become a more widely referenced and innovative approach in qualitative research (Glaw et al., 2017), especially studies in which participants are supported in producing their own visual materials (e.g., participant-generated materials).

Visual research methods are characterized by the use of visual materials, such as still or moving images, as a method to generate data related to a research question (Rose, 2014). These images can include collage and drawing, photographs (e.g., photo-elicitation or photovoice methods), digital storytelling, performance, art, dance, videos (Cox et al., 2015), diagrams, relational maps, timelines, self-portraits, memory books, and graphic novels (Rose, 2014). The selected images can be either pre-existing or generated as part of a research project, being produced by the researcher, by the participants, or taken from image databases (Drew & Guillemin, 2014).

This range of materials provides many options for how visual methods can be applied in research. Participatory research designs are often valued given their usefulness in promoting communication between the researcher and the participants, and in particular, the verbalization

of experiences that are difficult to conceptualize and express (Drew et al., 2010) or that may add to or differ from language-based traditional methods such as questionnaires or interviewing (Drew & Guillemin, 2014; Glaw et al., 2017; Padgett et al., 2013). In addition, they have a great potential to expand researchers' access to participants' subjective experiences through new perspectives and different channels, contributing to the enrichment of data (Cox et al., 2014; Glaw et al., 2017; Padgett et al., 2013).

Participant-generated images are also valued because images are a powerful tool for communicating ideas and amplifying participant voices. Thus, using this research design is especially useful in supporting the active subject in knowledge production (Glaw et al., 2017) by encouraging participants to explore new ways of communicating their experiences with supportive resources (e.g., materials, support from researchers in learning a new skill, time and space to express themselves without being judged, or social support from other participants if it is a collective project).

The increasing use of participant-generated visual data, however, raises questions about appropriate methods for their interpretation and analysis, given that each image is "embedded in the socio-cultural and political realm of its viewing, presenting a series of different messages rather than the ones intended by its makers or that of the photographed subjects" (Mannay, 2015, p. 69). As photographs will inevitably yield multiple meanings, incorporating them into research requires that researchers be clear about how they will be integrated into the process of data analysis (Murray & Nash, 2016).

Despite an emerging body of research that is beginning to provide insight into how participant photographs can be coded and analyzed, one of the most salient challenges in dealing with images as data is locating an appropriate method for analysing the images while also remaining faithful to participants' intentions. In this context, Murray and Nash (2016) emphasize that the researcher cannot identify and analyze multiple meanings and cultural aspects of participants' discourses solely based on their photographs, meaning that the interview data (in which participants provide their own interpretations of their images) are critical to the analysis and interpretation of images. In many instances, participant-generated images are used to elicit participants' experiences and stories but are not considered data per se. This practice is perhaps evidence of the absence of much-needed guidelines for dealing with visual data in a systematic analytical process (Brown & Collins, 2021).

Although there are now a number of analytical frameworks and guidebooks providing instructions on coding and the identification of themes with and through analysing textual and visual materials (e.g., Braun & Clarke, 2006; Chapman et al., 2017; Collier & Collier, 1986; Gleeson, 2011; Ritchie et al., 2013; Pink, 2013) and they often work with the connection, comparison, and combination of meanings from textual and visual data, detailed descriptions of how these elements are brought together are often missing from research reports (Brown & Collins, 2021). This precludes novice and other researchers from understanding how researchers arrived at their findings.

We noticed this gap in the literature when conducting a photo-elicitation project with participant-generated images related to adolescents' depression and social skills (Trombeta, 2020, 2022). Similar to Brown and Collins' (2021) research process, we wanted to value participants' generated images as relevant expressions in and of themselves, rather than only as a useful tool to initiate a meaningful conversation. While searching for possible methods to analyze visual data in combination with interview transcripts, we noticed that the majority of researchers use interview transcripts for data analysis or modified versions of content analysis, thematic analysis, and narrative analysis (Murray & Nash, 2016). There was, however, a dearth of guidance on how to integrate analysis of participant-generated images with interview transcripts. This aspect remains an implicit element within most published research reports

(Brown & Collins, 2021). Thus, we worked on developing a framework to make our process of data analysis explicit and reflective of our shared values.

Another challenge evident in the literature on participant-generated images in data analysis is that despite efforts to standardize ethical guidelines for research using visual methods (Cox et al., 2014; Papademas & The International Visual Sociology Association, 2009), notions of what is appropriate to analyze and disseminate, as well as what is considered an identifiable element, are culturally and contextually informed (Murray & Nash, 2016). Therefore, qualitative and visual researchers must carefully consider ethical decisions related to visual data analysis in light of the specific research context and salient aspects of their participants' cultures. The ethical challenges inherent to visual methods such as photovoice and photo-elicitation are not always self-evident (Murray & Nash, 2016) and the relevance of this for data analysis warrants attention.

Our aim in this article is to describe and illustrate the Textual-Visual Thematic Analysis (TVTA), a process we developed to analyze textual and visual data in conjunction with one another as part of a photo-elicitation study on adolescents' depression and social skills (Trombeta, 2020, 2022). Given that the ethical and methodological aspects are deeply entwined, we examine them in an integrated way. We begin by contextualizing the data obtained from the photo-elicitation study and then consider confidentiality and approaches to valuing participants' voices. We then share the TVTA framework, describing its procedural implementation in the context of the photo-elicitation research (Trombeta, 2020, 2022) and insights derived from evolving our data analysis approach, and conclude by offering reflections on the limitations and possibilities for future research.

About the Researchers and the Research Context

At the time that we conducted this research, I (GT) was doing my master's in psychology at the Federal University of São Carlos (São Carlos, Brazil). My interest in visual methods originated with my lived experience of taking pictures to help express my feelings and deal with symptoms of depression during adolescence. Aiming to explore visual expression, I did my BA in film studies with an emphasis in photography and research. By the end of the course, I wanted to explore whether my experience with using pictures as a means of self-expression in adolescence could inform methods for conducting qualitative research with adolescents. This led me to develop my master's project using photo-elicitation to investigate the relationship between depression and social skills in adolescents. A critical aspect of the research, however, is that I am a Brazilian researcher and was conducting my research in a city in the state of São Paulo, Brazil. Though São Paulo is the most developed Brazilian area in terms of research, the use of visual methods in qualitative research was extremely new in the country. For this reason, I obtained a fellowship that enabled me to travel to Vancouver, Canada, to work under the supervision of SM in exploring how to analyze participant-generated pictures and text from my study on adolescents and depression. SM is a senior researcher who is experienced in qualitative methods, visual and arts-based approaches to health research, and applied ethics. Thus, we conducted this research together.

I collected data in Brazil but SM and I analyzed the textual and visual materials together during my visiting fellowship at the W. Maurice Young Centre for Applied Ethics, University of British Columbia. This article is the product of this partnership. It illustrates the process of aligning my curiosity about how to analyze participant-generated photos with SM's ideas about how to integrate images in qualitative analysis in order to amplify participants' voices and stories. Through this alignment of research values and cross-cultural exchange, we hope to provide novice researchers with a practical guide on one possible way to bring visual and textual data together in qualitative analysis.

Photo-Elicitation Study on Adolescents' Depression and Social Skills

The data analysis process draws on data from my master's photo-elicitation study investigating relationships between adolescents' social skills and depression symptoms. Data consisted of eight individual interviews and 48 photographs taken by eight adolescents, aged 14 to 17 years, in high school at public and private schools from a city in the state of São Paulo, Brazil.

In this study, I asked participants to take photographs that respond to the question "How do you see your life now?" and send them to me. During the interview, I asked participants to choose only six and organize them in order of importance. The interviews were semi-structured and included a fixed set of questions, asked in relation to each image (What do you see in this picture? What does this picture mean to you? How is this picture related to your life? Why did you choose this picture?). These questions were interlaced with flexible questions going deeper into topics mentioned by participants. After discussing the six most important images, I asked if they would like to share something about the other photos, how they experienced the process of taking pictures, and how they selected the ones they wanted to share. Following the interview questions, I asked participants to associate each picture with one word related to the content or meaning.

As this was a comparative study about levels of social skills depending on the prevalence of depression symptoms, I selected the participants considering the presence or absence of depression symptoms (assessed using the *Children's Depression Inventory*) and their different levels of social skills (assessed *using the IHSA-Del-Prette Adolescents Social Skills Inventory*, the equivalent of the Matson Evaluation of Social Skills with Youngsters Scale for the Brazilian context). They were then separated into a clinical and non-clinical group at the stage of data analysis. Each group dataset included four interviews and 24 photographs taken by the adolescents (see Trombeta, 2020, 2022 for more details about this research).

I obtained ethics approval to conduct the study from The Federal University of São Carlos Human Research Ethics Committee, attending the ethical standards of the Brazilian National Health Council (2012, Resolution 466/2012).

Confidentiality: Preparing Data to be Analyzed and Disseminated

Confidentiality was the first ethical topic that emerged in our discussions prior to data analysis. Given that photographs have the potential to visually identify participants and other third parties, visual data may raise challenges to confidentiality and privacy in managing data analysis, especially when this is conducted as a collaborative process and includes discussions of participants' images with other researchers.

While ethical guidelines reinforce the researchers' responsibility for ensuring that no identifiable persons are shown in photographs without their consent (Graham et al., 2013), some image-based studies report that participants question the need to be anonymized, demanding that their photos not be manipulated to hide identifying features and request that their stories are publicly attributed to them by name (Wiles et al., 2010).

Such decisions impose a significant burden on the researchers who must carefully consider the purpose of the study, its subject, context, and potential implications for participants. There are two common strategies that visual researchers use to protect participants and other individuals shown in the images: (a) to not analyze and/or publish images depicting recognizable individuals or other identifiable elements (Clark et al., 2010) or (b) to manipulate images, employing digital techniques such as pixelation or blurring of identifiable elements to anonymize participants.

Although the latter may be an interesting solution for keeping the confidentiality of participants while managing the process of analysing images in collaborative settings, such practices have implications for research dissemination. Some scholars argue that pixelating images can dehumanize individuals and invoke associations with criminality, as in the common use of blurring faces in the media (Banks, 2001). Others question the value and purpose of displaying anonymized images (Clark et al., 2010). Weighing these different perspectives in the context of our photo-elicitation study, we elected to make such decisions specific to each phase of research, focusing first on how data would be prepared for analysis.

In pre-analysis, we opted to blur faces and elements that were potentially revealing of participants' identities. This allowed for the photos to be analyzed without risking the anonymity of participants and others appearing in the image. Interviews were also anonymized after transcription and names were replaced by random initials. Data were organized using folders in NVivo12 for Mac. Folders were named with participants' random initials, and each participant had their own folder containing interview transcription files, a memo with notes taken during transcription, and their photographs.

At the stage of research dissemination, none of the participants requested that their experiences and/or photos be publicly attributed to them, so we kept their names confidential and did not publish images containing recognizable individuals or other elements that could potentially identify people. This rule about the identifiable elements, however, also presented us with some challenges since recognisability (i.e., the ability to associate specific elements with people's identities) can vary from one context and audience to another. Therefore, researchers must consider this issue in light of each dissemination platform. For example, presenting an image of a girl's bedroom in an international conference raises different risks to the participants' confidentiality than presenting at a local conference in the city where the study was conducted, due to the different characteristics of audiences in each dissemination context. While the audience in the first case is formed by researchers from different countries that are unlikely to recognize the setting or its contents, the audience from the local conference presents a higher probability of there being someone present who would be able to link the image with the girl's identity, thus violating her confidentiality. Consent is another important aspect of image display and should be treated as an ongoing process wherein participants are consulted in light of each new type of opportunity to share the research findings (Cox et al., 2014). Ethical issues and decisions taken during the stage of data analysis itself are discussed below.

"Whose Voices?": Making Decisions About the Role of Images

One of the most salient challenges in dealing with images as data is finding a way to analyze the image while remaining faithful to participants' intentions (Drew & Guillemin, 2014). Although researchers working with visual methods recognize that expressive and cultural factors shape the construction and interpretation of images, there is controversy about whether textual/verbal or visual data ought to be prioritized and how each is seen to represent participants' voices.

Restricting data analysis to only interview data neglects the role of the images and their unique contribution to the analysis process, while analyzing images in the absence of an accompanying narrative prioritizes the researchers' interpretations over the participants' self-interpretations. It is, however, possible to balance these points of view, recognizing the value of both sources of data, considering that the relationship between word and image can work together in the production of meaning in visual research (Drew & Guillemin, 2014; Pink, 2013).

Seeking this balance while also upholding the responsibility we felt to participants' stories about their images, we analyzed the photographs alongside the participant interviews so that each participant's perspective would always shape the resulting interpretation.

Interviews were treated as the primary source of data especially when the content conveyed their own interpretations about the image content and its meaning. Photographs were treated as a complementary but relevant source of data, useful for triangulation and comparisons between visual elements and text-based interview data.

Textual-Visual Thematic Analysis: Design, Description, and Practice

We now turn to an explanation of how our framework was designed, followed by a detailed description of its methodology. To provide a practical approach to the framework, the descriptions are accompanied by an illustration of how each data analysis phase was conducted in NVivo 12 during the previously mentioned photo-elicitation study. Though thematic analysis is a well-known method in qualitative research, we opted to describe in detail both thematic analysis and the integration of visual and textual data phases to provide a complete step-by-step model that may be helpful to support novice researchers in this type of analysis.

Designing the Framework

Although there are many guidebooks and analytical frameworks on the analysis of qualitative data, there is no defined method for integrating the analysis and interpretation of visual and textual data from photo-elicitation interviews (Brown & Collins, 2021). Researchers working with this type of data usually combine photo-elicitation with discourse analysis, thematic analysis, or narrative analysis (Murray & Nash, 2016) and avoid the use of visual analysis methods because the role of images in photo-elicitation is restricted to eliciting experiences and stimulating conversations (Brown & Collins, 2021).

Our perspective aligns more closely with scholars such as Pink (2013), who proposes that images provide a rich source of information about participants' lives and experiences and should therefore be used as part of the data analysis. We started our investigation by assessing various methodologies for visual analysis, such as Content Analysis and Discourse Analysis from the perspective of Rose's (2007) *Visual Methodologies* and the Interpretative Engagement Framework Analysis (Drew & Guillemin, 2014). None were a good fit with our research goals, and theoretical approach nor were they feasible for the amount of time we had available. A brief description of the visual methodologies that we considered for analysis, followed by the reasons they were excluded, is available in Table 1.

We wanted a methodology that allowed us to analyze participants' photographs in conjunction with interview transcripts upholding three main principles: (a) respect for participants' interpretations, (b) focus only on visual aspects that could be relevant for our research questions rather than spending time analysing detailed image aspects that would not add value to our findings, and (c) identification of how the interview and photographs interacted during the analysis, checking for overlaps between data from these two different sources, or whether they complemented one another, contradicted one another, or pointed out to different contents. As the visual methodologies did not entirely fit our aims, we investigated how textual methodologies could be applied to analyze visual data and we noticed that, though there are many frameworks, they do have some similarities in their phases.

According to Brown and Collins (2021), these methodologies usually start with familiarization of the researcher with the data, followed by distinguishing, sorting, clustering, and describing themes, then refining and conceptualising themes. This process is not linear but rather a complex process of continuously going back and forward in order to understand patterns of data in a meaningful way. The key process of seeing how textual and visual data are interconnected and combined is, however, not clearly described in most of the frameworks, which inspired us to develop our own approach.

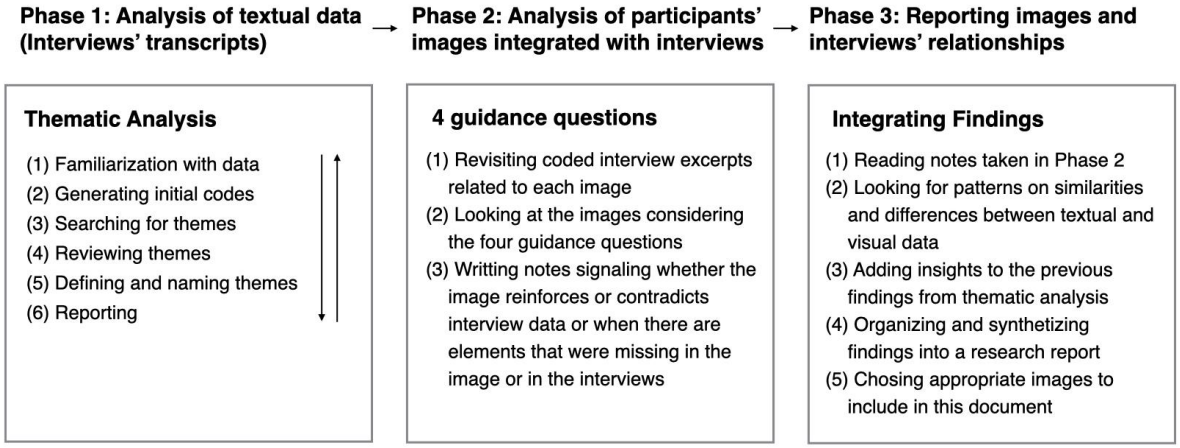
Table 1
Descriptions of Visual Methodologies Considered for Data Analysis Followed by the Reasons we Chose not to Apply Each of Them

Visual Analysis Method	Brief Description	Reasons for incompatibility with the photo-elicitation study
Compositional Interpretation (Rose, 2007, p. 33)	Detailed description of the appearance of images	Focused on visually describing images rather than analyzing what they say and how they were used.
Content Analysis (Rose, 2007, p. 55)	Structured quantitative analysis of images' elements, patterns and relationships.	Focused on researchers' coding rather than participants' interpretations. Does not take into account elements that are not present in the image (participants' discourses). Handles interconnections between image elements using statistical correlation rather than reflexivity (more suitable for studies with larger samples of images).
Semiology (Rose, 2007, p. 69)	Analysis of signs using a highly refined set of concepts to understand the meanings produced through that image and how it works in relation to broader social system.	It requires an experienced semiology researcher t conduct the analysis. Researchers' meaning-making is prioritized over participants' discourses. Time-consuming.
Psychoanalysis (Rose, 2007, p. 100)	Use of psychoanalytic concepts to interpret aspects of visual images and their effects on spectators.	Focused on researchers' interpretations rather tha participants' discourses. Incompatible with the theoretical approach of psychology used in the photo-elicitation study.
Discourse Analysis (Rose, 2007, p. 135)	Analysis of discourse to address the organization and social production of visual, written, and spoken materials.	Although it is suitable to analyze discourse from different sources, it mostly prioritizes researchers interpretations. More focused on the structure of discourse rather than the meanings behind it.
The Interpretative Engagement Framework Analysis (Drew & Guillemin, 2014).	Analysis of visual and textual materials through three stages of meaning-making: participant engagement, researcher-driven engagement, and re-contextualising	Although the framework is very complete in its variables (considering both participants' and researchers' interpretations of the images) and systematic in its steps, it is not focused on exploring and understanding the interactions and interconnections between image and textual data.
Other methods (e.g., Grounded Theory)		Required more qualitative data analysis experien than I (GT) had at the moment of the research. Time-consuming in a way that did not fit project deadlines.

Given that thematic analysis is widely used in photo-elicitation projects and is accessible to novice-researchers, we drew upon its methods to develop the TVTA in three phases (see Figure 1).

Figure 1

Flow Chart of the Textual-Visual Thematic Analysis



Description of Each Phase

1. Analysis of Textual Data (Thematic Analysis)

The first phase consists of conducting a Thematic Analysis of interviews according to the six interwoven steps of Braun and Clarke's framework (2006, 2013):

1. Familiarization with data.
2. Generating initial codes.
3. Searching for themes.
4. Reviewing themes.
5. Defining and naming themes.
6. Reporting.

I analyzed data separately for each group, starting the analysis with the clinical group data set. Familiarization with the data consisted of reading the whole data set and transcription memos in an active way, searching for patterns at the general content of the interviews and in participants' stories in which implicit or explicit behaviors related to social skills were involved. Familiarization insights were written in memos inside NVivo 12.

Considering that the photo-elicitation project was based on behavioral theories about social skills and depression, we used a theoretical coding approach to generate the initial codes. I then coded the interviews by creating nodes in NVivo 12 in accordance with designations derived from the relevant literature (depression symptoms and social skills behaviors), paying attention especially to excerpts suggesting behaviors mentioned in the *Children's Depression Inventory* and the *IHSA-Del-Prette Adolescents Social Skills Inventory*. After the first coding, I reviewed the codes looking for overlapping codes and checking which codes were already suggesting theories about the data. I then wrote memo notes about these theories and their codes

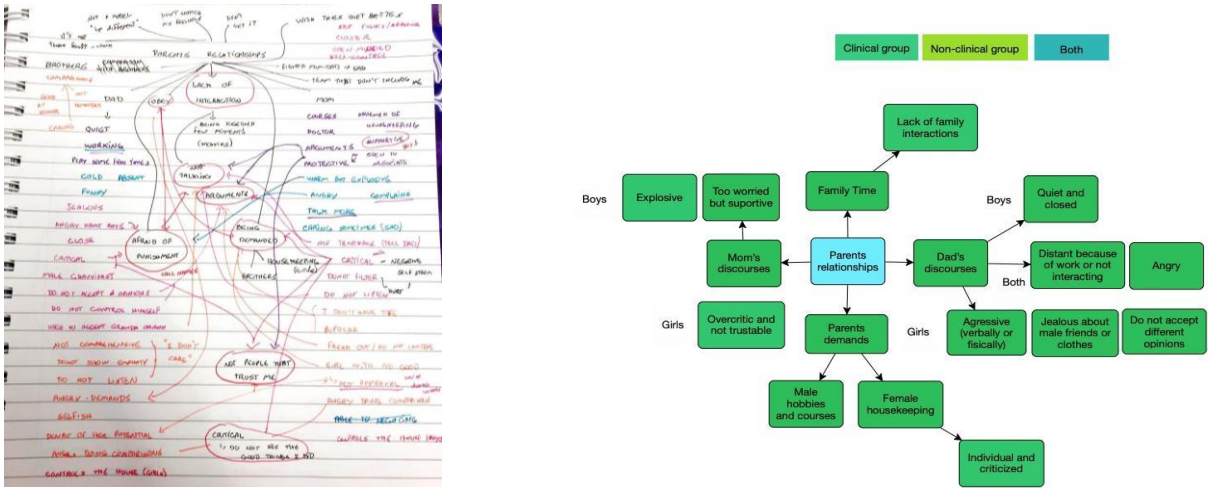
re-coding them into smaller, non-biased, pieces (e.g., "music calmness" was recoded into "music" and "feeling calm").

Searching, reviewing, defining, naming, and reporting themes were interconnected phases and the most time-consuming data analysis process, being conducted repeatedly until a satisfactory analysis was achieved. I identified potential themes through reviewing familiarization and coding memos to check recurrent ideas across a dataset and running queries and checking relationships between the codes containing relevant information to the research question. As this was a theoretical-based analysis, two codes families (Feelings and Social skills) were created and kept separately from the rest of the coding families and outside the thematic content, being used only to run queries to check how other codes, such as codes related to people, places, or activities, were interacting with participants' feelings and social skills repertoire.

After describing potential themes and their possible definitions, I reorganized codes into code families, sub-themes, and themes. To test if the proposed themes were working, I read the excerpts inside each theme's codes and drew the not well-understood relationships between codes in a notebook, to facilitate my comprehension of participants' stories by organizing ideas visually, as shown in Figure 2. Once relationships between codes became clearer, I made adjustments in the coding organization and theme definitions and repeated the process of checking whether themes were fitting the data again, until clear themes and their contents were aligned and well-defined. Then, concept maps were developed inside NVivo12 in order to organize and refine the content of each theme (see Figure 2).

Figure 2

First Mind Map of Parents' Relationship Theme and Later Concept Map Developed NVivo12.



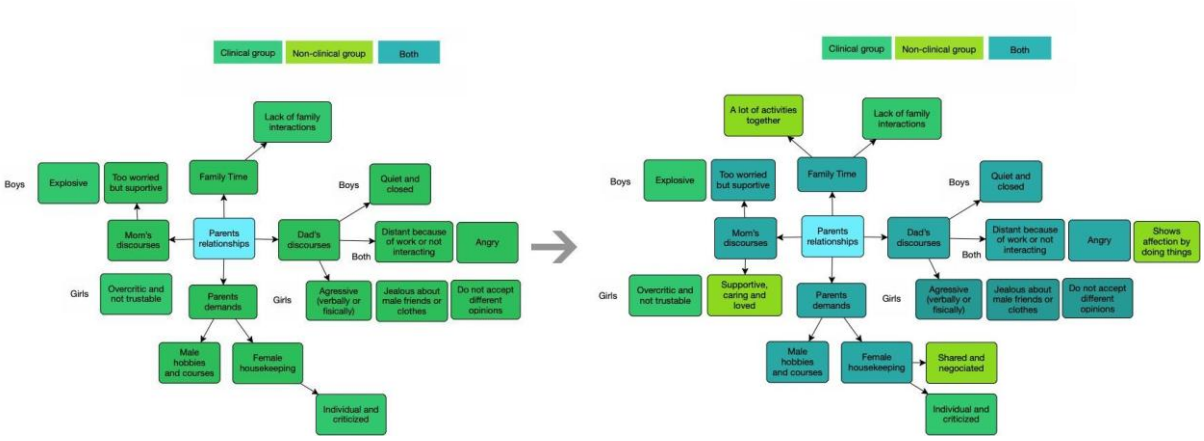
I shared the concept maps and my written findings with SM so we could review and discuss together the whole data analysis process conducted for the clinical group. After that, we decided to use the same methodology to analyze data from the non-clinical group. To facilitate the visual organization of information during data comparisons, I coded this group data in a separate session in NVivo12. To check similarities and differences in clinical and non-clinical group stories, she initially organized codes according to the same main themes identified in the first group to check whether they would fit in this organization, suggesting the themes were similar but meanings inside of each might be similar or different.

After the non-clinical group coding was finished, I shared my findings with SM and together, and we made appropriate adjustments to the names of themes and sub-themes. This was done by comparing each theme, looking first at its sub-themes and codes, and then looking

inside the most relevant codes. When looking at the Coping Resources theme, for example, we noticed there were two sub-themes for the clinical group (Hobbies and Social Support) and three for the non-clinical group (Faith, Hobbies, and Social Support), so here, just by looking at the sub-themes it was possible to see similar and different coping strategies between the groups. As shown in Figure 3, we added results from this process to previous concepts maps, organizing ideas with different colors to indicate which findings were related to each group and which ones were shared. Concepts maps were then used to make sense of data and guide the writing about research findings.

Figure 3

Conceptual Maps Development Merging Key Concepts from Both Groups Dataset



2. Analysis of Participants' Images Integrated with Interviews (Four Guidance Questions)

The second phase, which is the novelty of our method, consists in analyzing images by integrating them with interview data. We developed four questions as guidance:

- What is in the images that supports or reinforces what was learned from the interview data?
- What is in the images that contradicts what was learned from the interview data?
- What is in the images that is not in the interviews?
- What is in the interviews that is not in the images?

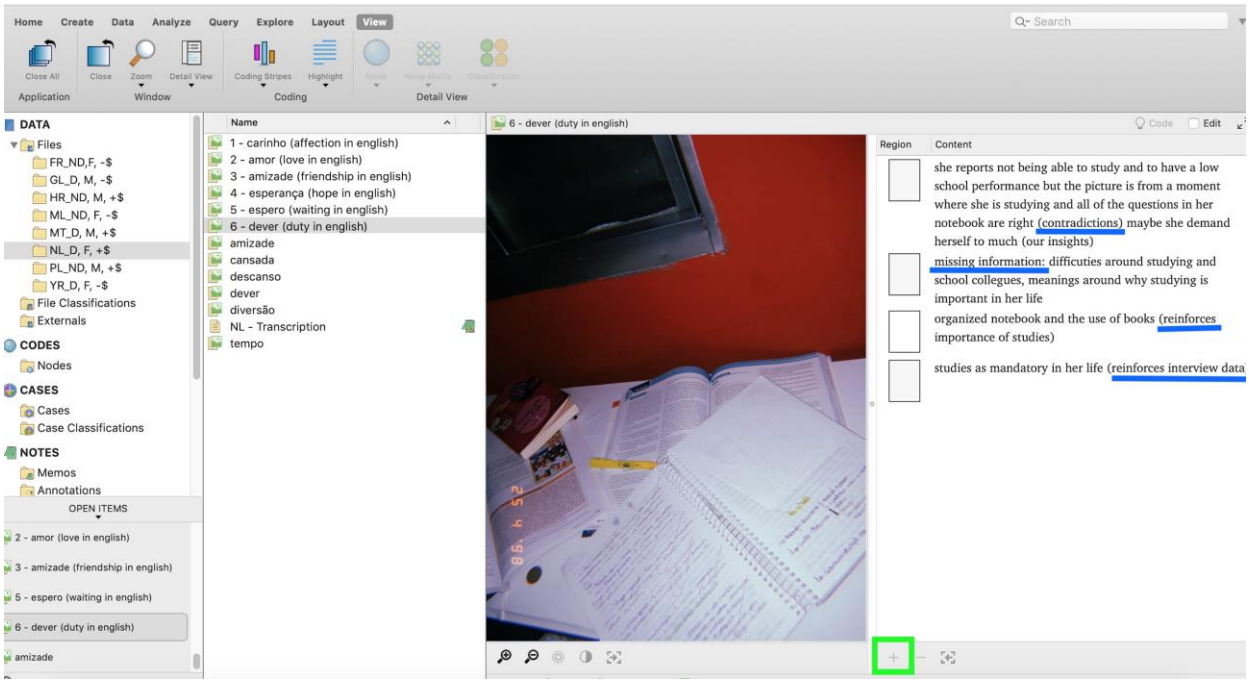
These questions were designed to facilitate comparison between different sources of data, considering the possibilities for congruence or divergence between the content of images and the texts (e.g., whether they overlapped, complemented one another, contradicted one another, or pointed to different contents). This comparison process was created as a way to systematically organize researchers' reflections about data from different sources. It is expected that by answering the four comparison questions, researchers are able to visualize (a) a variety of relationships between participants' words and images, and (b) how data from each source might represent different facets of data through their similarities and differences.

In our photo-elicitation study, the practical approach of this phase consisted in my reading the interview excerpts related to each image, reviewing its main codes, and looking at the photo, keeping the four previously mentioned questions in mind. Then, answering the questions involved a process of (a) coding the pictures, considering the main codes from the

interview content, aiming to elucidate the researcher's comparative insights about what was present or absent in the photo's elements; (b) organizing ideas related to each image, as shown in Figure 4, writing notes in NVivo12 entries space, next to the pictures, signalling if the image reinforces or contradicts interview data, if there was something that was missing in the image, or if there was something missing in the interviews; (c) writing memos of the researcher's insights about observed patterns of relationships between textual and visual data; and (d) discussing the whole process with a second researcher (in this case, SM). The phase is then finished when these steps are conducted with all participants' pictures.

Figure 4

Notes About Photos Content Related to Interview Data Taken in NVivo12 Interface



Even though in this project we used the four questions to explore how the content of the interviews and photographs interacted during the analysis, this approach does not exhaust the possibilities for how the guidance questions can be used to visualize how interview and visual data interact. With slight adaptations, keeping the structure of comparison that is attained through the framework, the questions can be used to explore different levels of analysis focused on different topics, from exploratory research in broad contexts to more focused research questions. For example, one may want to investigate whether participants refer to themselves differently in each type of data. In this case, researchers could use variations of our four questions focused on identity (e.g., What is in the images that supports or reinforces what was learned from the interview data in terms of participant identity? What is in the images that contradicts what was learned from participant identity from the interview data?) to investigate how similar or different perspectives of these topics are present in visual and oral data, and how these data seemed to interact.

In cases in which slight adaptations of these questions are too comprehensive to answer a research question that is more specific (e.g., investigating how participants talk about themselves only in terms of their social roles, in different sources of data), the questions can be adapted to contemplate the level of specificity that is required depending on the research question. For example, when studying participants' identity focused on social roles, researchers could focus the questions on their research topic while keeping the comparative structure

suggested in the our framework (to check similarities/overlaps, differences/contradictions, and whether data from different sources complemented one another or pointed out different content), such as: "What are the similarities on how participants talk about their social roles in the interviews and in the pictures? What about the differences? Which social roles are illustrated in the pictures but are not mentioned in the interviews? Which social roles are described in the interviews but not illustrated in the pictures?".

Thus, we suggest that the four questions and their comparative structure can be applied to an extensive range of topics in disciplines in which it is relevant for researchers to investigate how different types of data interact and how people express themselves similarly or differently according to the source that was used for communication.

3. Reporting Images and Interviews' Relationships

The third phase consists of reporting findings related to the relationship of the different types of data. In this phase, the researcher must (a) review the notes and memos taken in the previous phase of looking for patterns on similarities and differences between textual and visual data, and (b) write new insights into memos or create visual maps similar to the ones presented in Figure 2.

This search for patterns is conducted to identify how participants have interacted with their photos during the interviews, using visual data to support, contradict, or further explain their discourses on interviews, or vice-versa (using the interview dialogue to support or contradict picture content). Investigating these interactions is relevant to clarify the role that using the pictures seemed to have played in the research, expanding insights into how (i.e., by which mechanisms) visual methods may contribute to eliciting information that differs from that obtained through more traditional methods and may promote the verbalization of experiences that can be difficult to conceptualize and express (Drew & Guillemin, 2014; Drew et al., 2010; Glaw et al., 2017; Padgett et al., 2013). Knowing more about these mechanisms could provide direction for empirical studies on the suitability of photo-elicitation for research with specific populations and for research on topics that are difficult to speak about, that evoke intense emotions and/or apply to appeal to populations who prioritize non-verbal communication (Creighton et al., 2013; Drew et al., 2010; Padgett et al., 2013).

Findings from this step can be varied. In the case of our photo-elicitation research, we noticed that even though a lot of photos reinforced meanings highlighted in the interview data (e.g., presenting similar elements), some participants' images were missing elements illustrating topics that were mentioned in the interviews, meaning that participants used the photos to discuss something that was not readily available in the images. In these situations, visual data interact with textual data by either contradicting or complementing it. Each of these patterns were associated with specific situations detailed below.

Contradictions

Contradictions between visual and textual data occurred when participants took photos of elements that represented something that enabled them to make comparisons (i.e., taking pictures of something that was absent in their lives). One example is illustrated in Figure 5, in which the participant's image depicts two hands holding close two colored cups. Even though the picture suggests topics related to relationships, in the interview excerpt the picture was used to reflect not only on the supportive role that the person depicted in the picture played in the participant's life, but rather to compare this role with how the participant felt that the support received from this person was absent from their relationship with their parents. Thus, even though the picture itself suggests it is related to supportive relationships, the discourse about it

was focused on relationships in which support was missing. In these cases, we noticed that what was missing in the pictures were elements that participants considered as missing in their lives.

Figure 5

Participant's Interview Excerpt and Picture Named "First Party"

Complementarity

Visual data complemented textual data mainly when participants used visual elements to talk about sensitive and conflicted feelings (a) using metaphors, such as illustrated in Figure 6, in which the participant used the elements of the sun and the sky to talk about failure and hope, or (b) using comparisons, such as illustrated in Figure 7, in which the participant depicted elements of nature and talked about how this place makes her feel calm and safe in comparison with uncomfortable moments of her life when she does not feel this way. In these cases, images illustrated sights or objects that participants used as support for dialogue in the interviews. Without participants' discourses, most of these elements were neutral, meaning that their possible meanings were not clearly indicated by any visual element, completely depending completely on participants' meaning making during interviews.

Figure 6

Participant's Interview Excerpt and Picture Named "Hope"

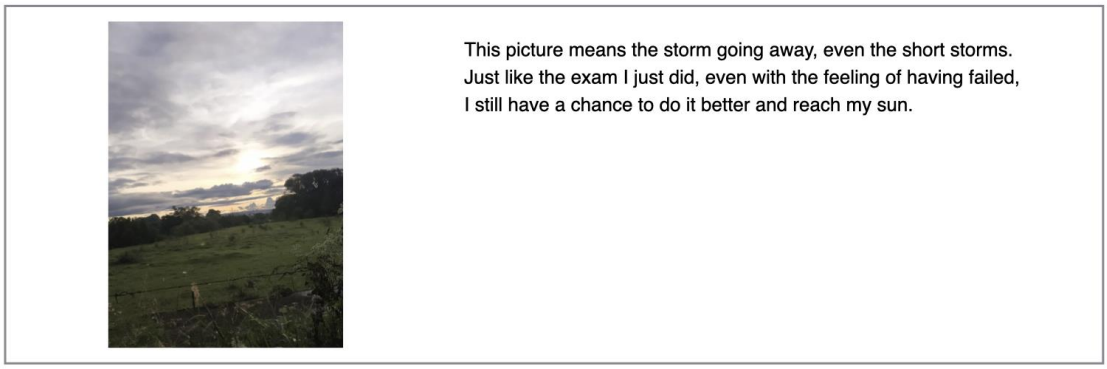


Figure 7

Participant's Interview Excerpt and Picture Named "Peace"

We always go there when things are going wrong, you know? It's our escape place, because there's no father saying anything, there's no ... there's nothing, there's no obligation. You don't have to look good, you don't need to have your hair done, you just go there and feel nature. You feel... I can not explain...you feel so calm. When you're at home there is your dad talking, your sister is in trouble, it's school, it's church...then when you go to nature there is nobody, everything is calm. We need to feel this peace, because everybody is being forced to do something every moment, and when you go there there's nobody, it's a calm world, the plants are there, the wind… then you think "Look at this calmness, it's the humans that are making us feel bad."

After finishing the search for data paths and registering new insights that emerged in this process, the final step involves (a) findings from the second and third phase of analysis that are synthetized, rewritten in a well-organized manner, and integrated into the thematic analysis results to compose a final report, and (b) specific images and interviews excerpts that are chosen to be included in publications, considering ethical issues as well as how well they illustrate the essence of participants' stories and key research findings.

Discussion

This article adds to the literature on visual data analysis by describing and illustrating the application of the TVTA, developed to analyze textual and visual data from a photo-elicitation study on adolescents' social skills and depression (Trombeta, 2020, 2022). The article also includes discussions about ethical decisions that were involved in the process of analyzing participant-generated visual data in combination with interview transcripts and how they were solved in the context of the mentioned photo-elicitation project.

Looking at our visual data using the developed framework generated several methodological findings. Analyzing the images using the present steps has proven to be a simple and fast process once we completed the Thematic Analysis phase. In addition, the four questions that integrate analysis of interview and visual data make it possible to triangulate data coming from different sources, thus allowing us to check when our insights were resonating or not with participants' stories and to clarify how the relationships between participants' words and images represented different facets of data through their similarities and differences.

A key finding related to our approach was that although a lot of images reinforced meanings highlighted in the interview data, in some cases the elements of the photographs did not support adolescents' discussions or lacked important contextual information, contradicting what we would expect the participant would discuss when just looking at their images. These contrasts found in data from different sources (photographs and interviews) are consistent with the Brown and Collins (2021, p. 1280) statement that "rather than there being an equivalence between words and images, the two are interrelated, fundamentally complex and qualitatively different facets of data" and thus, neither are reducible to the other. This finding indicates that researchers must be careful in making assumptions and interpretations about what they see in participant-generated images. It may be important to link images with additional sources of data both in order to facilitate data triangulation and to assist researchers in maintaining a respectful and accurate accounting of participants' interpretations of their images in the final analysis.

Conclusion

The existing literature in visual methods remains relatively silent on the questions of how visual and textual data can be brought together in the processes of analyzing participant-generated images. In this article we describe and illustrate the TVTA, a process we developed to analyze textual and visual data in conjunction with one another, as well as reflect on their entwined ethical and methodological aspects.

Though the first phase of the framework (i.e., thematic analysis) is well-known by qualitative researchers, the second and third phases (i.e., analysis of participants' images integrated with interviews, and reporting images and interview relationships, respectively) are novel processes that we designed to take into account the analysis of interviews and images as data per se and have a great potential to assist researchers in systematically organizing their reflections about data from different sources, facilitating the visualization of the variety of relationships between participants' words and images.

During the development of the framework, we considered different types of relationships between visual and textual data that could be explored, creating a methodology focused on detecting similarities/overlaps, differences/contradictions, and whether data from different sources complemented one another or pointed to different contents. However, it is possible that our approach does not exhaust the possibilities for thinking about how the interview and visual data are related to one another. We suggest that this limitation can be addressed by slight adaptations in the guidance questions (keeping their embedded comparison structure), but this hypothesis needs to be tested in future research. Thus, we encourage scholars to assess for themselves the utility of the application of the TVTA, with its original or adapted guidance questions, in different disciplines.

Future research could explore other possible relationships between visual and textual data that we did not contemplate with this framework and consider how the process described in this article could be expanded to surface new findings. This might include testing the viability of conducting other types of qualitative textual analysis (e.g., narrative analysis, discourse analysis), rather than thematic analysis, in the first phase of the framework, and observing how the comparison of visual and textual data enhance the potential to deepen the scope of analysis and/or uncover aspects that might not be identified solely through one type of data.

Though the combination of visual and textual data can be applied to research in a wide range of disciplines, we particularly encourage scholars to explore their use in the context of mental health, because of its potential to give populations who might feel constricted when engaging in traditional psychological approaches, such as adolescents, an additional mechanism to express themselves. From our perspective, the combination of visual and textual data can contribute a lot to integrative knowledge translation in this field of study, given that images are a powerful tool for communicating ideas and amplifying participant voices. One way that the contributions of this study could be used in this direction is to serve as a base for researchers to conduct a version of the TVTA framework in which participants are fully engaged in the four steps of the data analysis process. This could be done individually, through focal groups or even considering participants' collective exhibition of their selected textual and visual data.

Lastly, though we presented selected ethical issues that are entwined in methodological aspects of analyzing participant-generated images, the ethical challenges inherent to visual methods often go well beyond customary questions related to consent and confidentiality. As we hope to have established, a commitment to ensuring that the interpretation and analysis of visual and textual data are done in tandem is paramount in ensuring that participants' voices and stories are accurately and respectfully represented. This clearly points to issues of representation, justice, and equity in research relationships.

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