

## Methodology for the Measurement of Graffiti Art Works: *Focus on the Piece*

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**Abstract:** Throughout its 45 year history graffiti art has been researched by various academicians from diverse disciplines. In their studies, many graffiti art researchers provided illustratory photographs of graffiti art works. However, these representations were never accompanied by captions referring to the exact sizes of the works depicted. This present study approached this problem and attempts to contribute to the creation of a methodology for the measurement of sizes of graffiti art works. This first exploratory research also reports initial results on the average sizes of graffiti art works, especially of the graffiti art form piece which is so excessive in scale.

**Key words:** Measurement • Size • Scale • Anthropometry • Street art • Urban art

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### INTRODUCTION

Graffiti art is nowadays one of the most distinct visual features of urban spaces. The graffiti art phenomenon started first evolving in Philadelphia in the late 1960s [1] and fully developed in New York City in the 1970s [2, 3], before diffusing around the globe [4] in the 1980s to become in the new millennium a global attribute and problem of developed urban areas worldwide [5, 6]. Graffiti art was studied by academics from diverse disciplines, ranging from sociologists and ethnographers [7, 8, 9], criminologists [10, 11], library scientists [12] and architects [13], to art historians [14, 15] and academics from other fields of studies.

Graffiti art evolved historically as a form of graffiti and people worldwide are divided between those who strongly oppose this visual pollution of urban spaces and those who tolerate and enjoy it as a form of artistic expression. In New York City graffiti art remains highly controversial and even the phenomenological experience of graffiti art works legally produced in the city is suppressed [8]. However, in other parts of the world graffiti art is gaining more recognition from official institutions, as for instance in the region of Southeast Asia, especially in Malaysia [16]. Malaysia is focusing

more and more on its tourism industry [17] and graffiti art is considered to have the potential to attract the attention of tourists [18]. Further, two Malaysian UNESCO World Heritage Sites, George Town (Penang) and Melaka, have also supported graffiti art projects; the former has built a Graffiti Park [19] while the latter has included graffiti art into its environment through the Melaka River Art Project [20].

Graffiti art researchers often richly accompany their studies with photographic representations of graffiti art works for illustratory purposes. Nevertheless, these representations are never accompanied with details of the exact sizes of the works illustrated, hindering scholars who seek to understand the actual scales of the works. The importance of providing accurate scales can be seen especially in the discipline of art history. In specialized publications fine art and other objets d'art are commonly accompanied with exact sizes. Providing the true sizes of reproduced graffiti art works, in captions or within the text, is just as important as for other kinds of artworks [21], because such works may vary enormously in their dimensions [22]. Therefore the foremost aim of this study was to suggest a unified methodology for the measurement of graffiti art works. To establish an appropriate methodology is important as a graffiti art work's dimensions cannot be easily provided without an

in-depth exploratory study of this problem. This study was also designed to explore the actual scale of graffiti art works, especially of the piece, as the literature provides only vague suggestions on the scales of graffiti art forms.

**Literature Review:** Lisa Howard divided graffiti into two categories: traditional graffiti and graffiti art [23]. This categorization is both based on the subject matter and on the form of the graffiti. The subject matter of traditional graffiti is represented by the following five categories: agnomina graffiti, amorous graffiti, obscen-erotic-scatological graffiti, intellectual graffiti and protest graffiti [2]. Traditional graffiti is concerned with the message and does not emphasize the form. However, graffiti art's main concerns are stylistic and aesthetic [2]. Graffiti art itself has four codified forms: tag, piece, throw-up and character. Monochrome tags are essentially simple stylistic-signatures. Commonly duotone, throw-ups are regularly roundish, dimensional-outlines of abstracted letterforms. Letterforms are also the main subject matter of multicoloured, elaborate pieces (short for masterpieces). Characters are paintings stylistically representing objects and scenes. Tags and throw-ups are generally perceived by the public as vandalism [24]; however, pieces [9] and characters are the most acceptable graffiti art forms in the general public's perception. Susan Phillips noted in *The Dictionary of Art* that pieces can be perceived by some people as possessing the qualities of a museum work [25]. The general purpose of graffiti art works is to spread a graffiti artist's identity [26]. In the literature there are only vague indications as to the sizes of graffiti art works, as is discussed next.

**Scale Suggestions:** The piece is visually the most attractive form of graffiti art. Academic and popular literature refer to pieces as large-scale or big murals. In her study about the attitudes of six graffiti artists in Toronto, Tracey Bowen frequently used the term 'large' in relation to pieces and further referred to pieces as murals, as do many other researchers. Bowen explained that pieces cover entire wall spaces and are large and colourful [27]. Kim Dovey *et al.* studied graffiti art as an urban spatial practice and referred to pieces as large-scale, complex and time-consuming works [13]. Jeff Ferrell specified the piece as a large, illegal mural and on another occasion stated that it can take hours to finish such an elaborate work [10, 11]. Gregory Snyder referred to the quality of a piece and said that a piece is big and beautiful [9].

Tags visually resemble calligraphy. In the publication *Writing* we learn that the amplification of the tag is the throw-up [28] and Snyder also states that the tag is small [9]. These cases are only some instances of the too general usage of the words large, scale and big in relation to the dimensions of graffiti art works and show the need to research sizes precisely.

## MATERIALS AND METHODS

**Methodology:** The principal aim of this study was to suggest a methodology for the measurement of a graffiti art work's size. The size of a graffiti art work is articulated through the attributes of 'width' (horizontal measurement from side to side) and 'height' (vertical measurement from top to the bottom), which are measured according to a ratio scale. These rational values are later expressed in the form of centimeters (cm). The research instrument used in this study was a metallic self-retracting tape measure.

The main difficulty encountered during this exploratory study was establishing the starting and ending points of measurements. These starting and ending points were finally established as the most extreme horizontal and vertical points in a graffiti art work. This method needs a more detailed explanation.

Graffiti art works are quite complex paintings with ever changing compositions. This is due to the fact that certain visual elements of a work can be included or left out. This inclusion or dismissal of visual elements is determined by many factors, such as the personal stylistic preferences of a graffiti artist, the availability of paint, the time allowed for composition [9], the graffiti art style used [2, 12, 14, 26, 28] and other factors. Graffiti art works' compositions can be simplified into the following two main visual elements:

- Central letterform-composition/character.
- The background around the letterform-composition/character.

All visual elements around the letterforms/character are optional. The indicatory dashed line in Figures 1–4 highlights the central letterforms/character. Everything outside of the dashed, highlighted area in Figures 1–4 is the background. For taking measurements, the starting and ending points are essential. These are designated in Figures 1–4 as anchor points 'A' for the measurements of the width and as 'B' for the measurements of the height. A researcher measuring a graffiti art work has to:



Fig. 1: PHOBIA piece (spray and emulsion paint on wall); width: 618 cm; height: 225 cm. Jelatek, Kuala Lumpur, 2012.



Fig. 2: Measuring the height of a character by DAMIS (spray and emulsion paint on wall); width: 263 cm; height: 290cm. Damai, Kuala Lumpur, 2012.

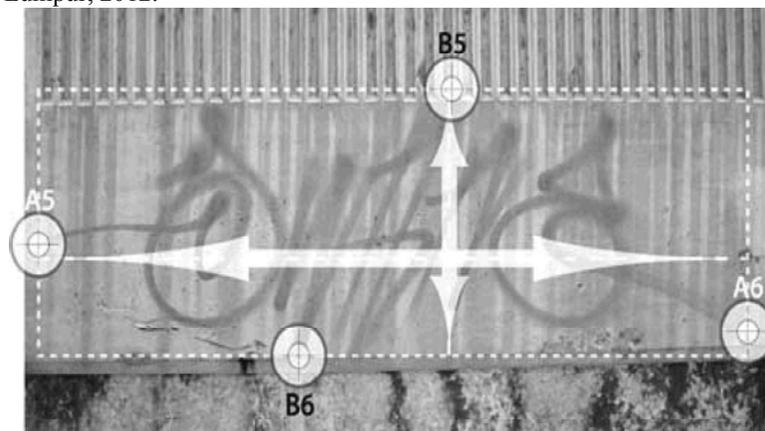


Fig. 3: DWANE tag (spray paint on wall); width: 116 cm; height: 35cm. Jelatek, Kuala Lumpur, 2011.



Fig. 4: BONKS2 throw-up (spray paint on wall); width: 332 cm; height: 134cm. Chinatown, Kuala Lumpur, 2011.

- Observe a work.
- Determine the most extreme horizontal/vertical starting and ending points of the central letterform-composition/character. (If not clear, a comparative test measurement is performed.)

A number of graffiti art styles make extensive usage of so called letterform 'extensions'. One very common letterform extension design is the arrow shape used in Wildstyle pieces [12, 26]. These extensions are one of the many stylistic ways by which graffiti artists transform Latin letterform shapes into graffiti art lettering styles. These extensions are inseparable parts of letterforms. These letterform extensions are also present in the works in Figures 1, 3–4 (in these cases the letterform extensions also mark the starting/ending measurement points A and B).

The background designs around the central letterforms/character are excluded from the measurement of a work. This is due to the fact that it is nearly impossible to determine the starting/ending points of a background, especially when two or more graffiti artists share one and the same background design, which is common (as was also the case in the collaborative works in Figure 1 (to the right side) and in Figure 2 (to the left and right side, where ten graffiti artists used a white background, tones of blue and laces from sport shoes as a continuous shared background)). Therefore it is necessary to measure only the individual central letterforms/character. The background should be omitted from the measurement as it would be impossible to determine its ending and starting points (as in the cases of the works in Figures 1–2).

Once the measurement points are established (anchor points 'A' and 'B' in Figures 1–4), the measurement is performed with the help of the research instrument. The researcher starts measuring at one designated starting point and continues to the other side. Naturally the measurement instrument is aligned in a straight line horizontally or vertically – as indicated with the arrows in Figures 1–4 and as is depicted in Figure 2.

This is the basic, suggested measurement methodology. In some graffiti art works some visual elements are detached from the central composition (detached arrows, dots, bits, stars, lines etc.). These detached visual elements can be included in the measurements (especially in tags and throw-ups). This depends on the researcher's intuition in regards to the measured work, but a note should clarify if the detached visual elements were/were not included in the measurement.

Once the rational value (width/height) is established, the researcher notes down the values onto a paper (preferably into a printed out table) and also notes the graffiti artist's name and describes the graffiti art work's position in the location for its later identification. Another possibility is to note down the number of the digital photograph of the work as these numbers can be displayed on the screens of digital cameras. The measurements can be performed in the field after taking photographical documentation or vice versa. Afterwards the collected data from the field are transferred into a database in the researcher's office.

**Research Location:** This study was also designed to explore the actual sizes of graffiti art works, especially of the piece, as the literature provides only vague

suggestions on the scale of graffiti art works. This part of the study was based on empirical evidence and used quantitative research methods.

The data for this study were collected from various research locations in the area of Greater Kuala Lumpur, Malaysia in the years 2011–2012. This urban area is relatively little saturated with graffiti art as is also stated in the publication *Graffiti Asia*, where the documentarists Sanada and Hassan reported that Kuala Lumpur appeared to them particularly clean in comparison to Taipei or Bangkok [6]. Graffiti art pieces in Greater Kuala Lumpur were repeatedly created at tolerated graffiti art locations and some tags and throw-ups were created in other spots where such activities were not permitted. At some locations only one work was measured, while at other locations several works were measured and at one location in particular 28% (N=76) of the sample (N=268) was repeatedly measured.

**Research sample:** The research sample consisted of 268 measurements (width and height). All graffiti art works forming the sample were also photographically documented. The sample (N=268) was formed by 61% (N=162) of pieces, 16% (N=43) of throw-ups, 13% (N=35) of characters and 10% (N=28) of tags. The works in the sample (N=268) were created by 75 individual subjects (graffiti artists). From these 75 individual subjects, 50 subjects were Malaysian graffiti artists and 25 subjects were graffiti art tourists from various Southeast Asian, European and other countries visiting and creating graffiti art works in the area of Greater Kuala Lumpur. The 75 individual graffiti artists had been involved in graffiti art culture for approximately between 1 and 20 years.

The sample was based on the convenience sampling method (the availability of graffiti art works at various locations) and on the purposive sampling technique (the inclusion of diverse graffiti artists in the sample). The data collection process in the field of graffiti art has limitations in regards to establishing the exact size of a population. The statistical population of graffiti artists in the first decade of graffiti art in Malaysia (1999–2009) was around 123 graffiti artists [29]. The 162 pieces in the sample were created by 51 individual subjects, whereby 34 subjects were Malaysians and 17 non-Malaysians. Various graffiti artists were creating graffiti art works more actively and their works were present repeatedly in the research sample.

**Reliability Test:** A reliability test of the methodology was performed in July 2013 in Prague, Czech Republic. The reliability test from Prague (N=66) was not part of the

original research sample (N=268) from the area of Greater Kuala Lumpur. Graffiti art locations in Prague were visited on 6 July 2013 and 82 graffiti art works were photographed and measured: 97% (N=79) represented pieces, 2% (N=2) represented throw-ups and 1% (N=1) represented tags. The subsequent week, on the 14 July 2013, the same locations were revisited and the measurements were performed again on the identical graffiti art works. However, from these originally measured 82 graffiti art works, 20% (N=16) of pieces disappeared within the eight days and were painted over by new works (this showed how ephemeral is the life span of graffiti art works).

The results obtained from the reliability test showed that the research instrument and the methodology are more than acceptable, as the correlation coefficient of the data was 0.996 for the width and 0.955 for the height.

A problem encountered during the reliability test was in regards to the measurement of certain pieces. Some pieces included characters within the central letterform compositions (in a similar fashion to that in the PHOBIA piece in Figure 1, where the 'O' was replaced with a ram skull). When the measurements were repeated, these integrated characters led in some cases to inexactness in the establishing of precise measurement points and subsequently this inaccuracy lead to deviations in the results. Thus the reliability test illustrated once again the importance of proper focus on the correct setting of starting and ending points for the measurements.

## RESULTS AND CONCLUSION

Based on the measurements of 162 pieces, this study revealed that an average piece in the area of Greater Kuala Lumpur measured 473 cm in width and 194 cm in height. Along with the measurements of pieces (N=162) also collected were the dimensions of 28 tags, 43 throw-ups and 35 characters. These additional measurements are considered in this paper only as supportive descriptive data. Nevertheless, these results are provided in Table 1. The identified average sizes of all four graffiti art forms are presented additionally in Figure 5, in a correct scale, next to a human figure of 175 cm in height.

The revealed values of average sizes of graffiti art works support the general observations about the four graffiti art forms in literature. The tag is described as a quite small and quick signature [3, 9, 28]. Figure 5 clearly shows that the determined small average size of a tag corresponds with the purpose of a tag, which is to quickly mark a surface without being seen, as the activity of tagging is generally illegal and strongly connected to

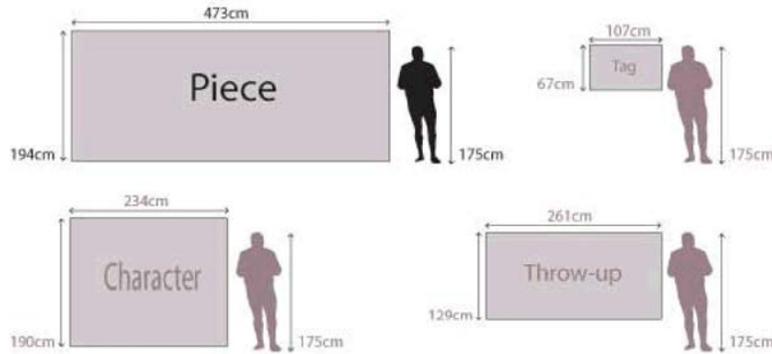


Fig. 5: Average sizes of graffiti art forms in comparison to the body of a 175cm tall person in an exact scale

Table 1: Average Values and Largest & Smallest Items in the Sample (N=268)

	Piece (N=162)	Tag (N=28)	Throw-up (N=43)	Character (N=35)
Average width:	473 cm	107 cm	261 cm	234 cm
Average height:	194 cm	67 cm	129 cm	190 cm
Largest item:				
Width	1045 cm	205 cm	503 cm	593 cm
Height	270 cm	145 cm	187 cm	225 cm
Smallest item:				
Width	228 cm	39 cm	97 cm	48 cm
Height	70 cm	23 cm	49 cm	49 cm

vandalism. The throw-up is generally used by graffiti artists as an illegal, bubble-styled and letterform-oriented work, which is created with fast, coordinated body movements [3, 9]. This would also confirm the determined average dimension of a throw-up, as the graffiti artist needs to be fast and coordinated in his body movements to create a throw-up quickly and unseen. The tag and throw-up are vandalism-oriented graffiti art forms and the aim of these two forms is to spread the name of a graffiti artist and mark a surface to state the graffiti artists' presence in a public space. Therefore, the tag and throw-up are smaller in comparison to the piece and character as is discussed next.

As was stated at the outset of this paper, in contrast to tags and throw-ups the piece and the character are generally regarded as being closer akin to art. This is probably due to the time and effort invested in creating these larger paintings (Figure 5). It takes several hours to create a multicoloured large-scale painting such as a piece or character in comparison to the smaller, quickly executed tags and throw-ups, which can be created within seconds/minutes. Nevertheless, a shorter production time does not necessarily disqualify the tag or the throw-up from the possession of aesthetic value as Chinese and Japanese calligraphy is created with fast, controlled brush

strokes and is considered art. It is the act of disobedience to the established social rules and property laws, which disqualifies the tag and throw-up from being an artwork.

The width of pieces present in the sample (N=162) ranged mostly between 300 cm and 700 cm and the height ranged mostly between 150 cm and 250 cm. The higher consistency in the height's values in pieces has a simple and practical reasoning: the physical limitations of the human body. Pieces are rather long because the graffiti artists create their works while standing on the ground. The graffiti artists' hands can reach upwards only as far and high as the graffiti artists can stretch their bodies (Figure 5). These observations also explain the rather long shape of a piece, with the average width and height ratio (the relationship between the obtained width and height values) of 2.448, whereby the ratios of pieces ranged commonly from 1.6 to 3.3.

To conclude, the present study introduced a new methodology for measuring the size of graffiti art works. This suggested methodology could help in the future to provide exact data along with visual representations of researched graffiti art works. The provided results may also be of interest to architects active in urban planning [19] and to curators while organizing graffiti art exhibitions and events [18, 20].

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