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Nabataean Subadult Mortuary Practices

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A thesis submitted to the faculty of
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ABSTRACT

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This thesis provides the beginnings of further research on the correlation between Nabataean mortuary practices and specific biological age ranges. It seeks to answer the question of whether Nabataean infants were absent from, or under-represented, in Nabataean cemeteries. Several quantitative analyses and descriptive statistics were performed, comparing Nabataean adult and subadult burials from fourteen sites. Nabataean cemetery populations were also compared with Walter Scheidel's model life table.[1] These analyses demonstrate that Nabataean burials typically consisted of either a single adult or multiple individuals of various age ranges. Subadults, individuals under the age of 20 years, were rarely found buried by themselves, and seldom with other subadults. The comparison of Nabataean cemetery populations with Scheidel's model life table reported lower than expected percentages of individuals between the age ranges of zero to 12 years. However, this discrepancy is likely due to decay, the destruction of skeletal remains, and poor excavation techniques.

Keywords: Nabataean, infant, child, burial, mortuary practices, tombs, non-monumental tombs, model life table, subadult

[1] Walter Scheidel, "Demography," in *The Cambridge Economic History of the Greco-Roman World*, edited by Walter Scheidel, Ian Morris, and Richard P. Saller, 38–86 (Cambridge University Press, 2007), 40.

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TABLE OF CONTENTS

LIST OF FIGURES

Chapter 5

Chapter 6

LIST OF TABLES

DEFINITIONS

Since Nabataean archaeologists use some burial terms to mean different things, I propose the following definitions to provide consistency in the usage of terms in this thesis.[2] Also, several terms relating to childhood are clarified.

Burial Installations: Cultic elements associated with a burial structure or container.

Burial Receptacles: Separate containers found within a burial structure.

Type I: Loculus, shaft, pit, or cist grave in a tomb structure. These terms each have specific definitions (refer to pages vii to ix) but, because the site reports often do not clarify the term used, Type I describes any burial receptacle that has been cut into the floor of a monumental tomb.
Type II: Coffin in a *loculus*, shaft, pit, or cist in a monumental tomb structure.
Type III: Pit, cist, or shaft grave exposed to the elements, otherwise known generally as non-monumental tombs.
Type IV: Coffin in a pit, cist, or shaft grave of a non-monumental tomb.
Type V: Cremated human remains in a pit, cist, or shaft grave of a non-monumental tomb.
Type VI: A pit, cist, or shaft grave of a non-monumental tomb with commingled skeletal remains. Described in several site reports as an ossuary.

Burial Structures: Throughout this paper the term "burial structures" refers to architecture that houses the dead, but not necessarily the separate containers found within a burial structure (these are referred to as "burial receptacles").

Child/Childhood: Period of time during which an individual is educated according to social and cultural standards and often dependent on adult supervision. This is a culturally constructed term

[2] The definitions of these terms are based on Lucy Wadeson's definitions ("Nabataean Façade Tombs: A New Chronology," *Studies in the History and Archaeology of Jordan* 11 [2011]: 507–528).

and the associated biological ages encompassed in "childhood" are different for every culture. In this thesis, biological age is given in age ranges:

- before birth
- seven months in utero to birth
- One month after birth
- birth to three years old
- Three years old to 12 years old
- 12 years old to 20 years old
- 20 years old to 35 years old
- 35 years old to 50 years old
- 50+ years old[3]

Monumental Tombs: structures carved in the wadis and mountain-faces throughout the Nabataean Kingdom. Often, but not in all cases, these structures have decorative facades. Burial elements associated with monumental tombs are defined below.

Biclinium: A rock-cut chamber with two rock-cut benches where funerary feasts were believed to have been held in Nabataea. Many are part of monumental tomb complexes.

Façade: the front exterior of a tomb with visual motifs.

Loculus: (Latin for "little place") a rectangular chamber carved in the floor of a tomb.

Loculi: the plural of *loculus.*

[3] Tim D. White, Michael T. Black, and Pieter A. Folkens, *Human Osteology*. Third Edition (New York: Elsevier Academic Press, 2012), 385.

Nefesh: funerary monument and/or memorial stelae. It is a Semitic word meaning 'spirit,' or 'soul,' or 'personality.' Sometimes it is believed to have provided a focal point for the veneration of and communication with a deceased person and/or ancestor.

Niche: an ornamental recess in a wall, used mainly, but not always, by Nabataeans for religious purposes and often found in, or near a burial structure.

Recesses/Burial Niches/Ossuray Shelves: shelves, ossuaries, or burial niches cut into the rock walls of a tomb to hold skeletal remains.

Triclinium: A rock-cut chamber with three rock-cut benches where funerary feasts were believed to have been held in Nabataea. Many are part of monumental tomb complexes.

Non-monumental tombs: an encompassing term for graves carved vertically into bedrock with no covering beyond a stone slab cover. The covers of these graves are exposed to the elements; some have minimal cultic/mortuary elements associated with their burial. Other terms used by archaeologists for non-monumental tombs include cist grave and pit grave.

1 | INTRODUCTION

"As funerary archaeologists, we only ever see children as manipulated entities within an adult world – they are buried by adults. Thus, we never experience the world of children, only the experiences of adults coming to terms with and attempting to ascribe meaning to their foreshortened lives and premature deaths."[4]

Where are all the children? In 2001, Kathryn Kamp posed this question to the archaeological community. Noticing the absence of children in archaeological discussion and site reports, Kamp, along with other archaeologists, began to call attention to this oversight.[5] Since Kamp's vocalization of the absence of children in archaeological studies, there has been an increase among researchers exploring the evidence of children and childhood from the archaeological record.[6] Nabataean archaeology is not exempt from the excitement surrounding the new investigation of ancient childhoods. Megan Perry, an archaeologist who studies osteology of Nabataean subadult remains, along with some other Nabataean specialists, has made several observations about the under-representation of young child burials in Nabatean graves

[4] Mike Parker Pearson, *The Archaeology of Death and Burial* (College Station: Texas A&M University Press, 2008), 103.

[5] Included, but not limited to, in the initial exploration of children in an archaeological context are Kathryn A. Kamp, "Where Have All the Children Gone? The Arcaheology of Childhood. *Journal of Archaeological Method and Theory* 8:1–34. Eva Jane Baxter (*The Archaeology of Childhood: Children, Gender, and Material Culture* [New York: Altamira Press, 2005]); Grete Lillehammer ("A Child Is Born: The Child's World in an Archaeological Perspective." *Norwegian Archaeological Review* 22 [1989]: 89–105); and Joanna Sofaer Derevenski ("Age and Gender at the Site of Tiszapolar-Basatanya, Hungary," *Antiquity* 71[1997]: 875–889).

[6] Examples of such research can be found in Baxter's edited volume *Children in Action: Perspectives on the Archaeology of Childhood* (Archaeological Papers of the American Anthropological Association No. 15 [Berkeley, California: University of California Press, 2005]); Joanna Sofaer Derevenski's edited volume *Children and Material Culture* (New York: Routledge, 2000); and Lynn Meskell's *Archaeologies of Social Life: Age, Sex, Class et cetera in Ancient Egypt* (Oxford: Blackwell Publishers, 1999).

and necropolises.[7] These recent observations and questions concerning Nabataean child burial practices have led to the undertaking of the following master's thesis project.

The research question that this master's thesis explores is whether Nabataean infant burials were absent or under-represented in Nabataean cemeteries or necropolises? When this study was almost complete I realized that it provided a beginning for future research on the correlation between Nabataean mortuary practices and specific biological age ranges. Further research and archaeological excavation by Nabataean scholars needs to be conducted before any studies that focus specifically on Nabataean children can be explored thoroughly. To explore my question, I needed to complete three objectives.

The first objective of this thesis required me to collect mortuary data from Nabataean burial sites containing subadult and adult skeletal remains from a variety of regions throughout the Nabataean Kingdom that represented individuals from various economic statuses. The second objective was to determine whether any patterns appeared from a quantitative analysis of these sites that correlated specific burial patterns with a specific age of the deceased. The third objective was to compare the Nabataean cemetery populations with a model life table to determine whether those cemetery populations contained the expected number of individuals for specific age groups.

The quantitative analyses from Chapters 4 and 5 demonstrated that most Nabataean burials typically consisted of a singular adult or a burial with multiple individuals of various age

[7] These observations have been noted by Megan A. Perry, "Life and Death in Nabataea: The North Ridge Tombs and Nabataean Burial Practices." *Near Eastern Archaeology* 65(4): 265–270. Khairieh 'Amr, and Ahmend al-Momani ("Preliminary Report on the Archaeological Component of the Wadi Musa Water Supply and Wastewater Project." *Annual of the Department of Antiquities of Jordan* 45 [2001]: 268); David Johnson ("Brigham Young University Wadi Mataha Project: 20 May through 10 June 2007" [Manuscript on file, Provo, Utah: Brigham Young University, 2007]); and Stephen Schmid, A. Amour, A. Barmasse, S. Duchesne, C. Huguenot, and L. Wadeson's, "New Insights into Nabataean Funerary Practices," (in *Proceedings of the 5th International Conference on the Archaeology of the Ancient Near East,* edited by J. M. Cordoba et al, 135–160 [Madrid: UAM, 2008], 139).

ranges. Subadults, individuals under the age of 20 years, were rarely found buried by themselves and seldom only with other subadults. Scheidel's model life table, combined with Palmyra cemetery populations as a relational analogy,[8] demonstrated that the percentages of Nabataean skeletal remains recovered were indicative of an expected complete cemetery population and the slight discrepancies in the age ranges of zero to 12 years is likely due to decay and destruction of skeletal remains and poor excavation techniques.[9]

Scope, Scale, and Limitations

The scope of this thesis attempts to provide a regional study on Nabataean subadult burials. Therefore, Nabataean burial sites from various regions encompassed in the Nabataean Kingdom during the height of its expansion are examined. This thesis attempts to include burials of both low and high status Nabataean individuals. Variations in the data could have, and most likely were, affected by geographical and social conditions that were not considered in this study. This study is also limited in that the site reports used to collect data were not uniform and often terms relating to burial and age were not defined.

Contributions

The archaeology of childhood has emerged as an increasingly controversial topic in archaeological discussion over the past decade. Multiple articles and books have focused on

[8] Cemetery populations from Palmyrene tombs A, C, and F located within the Southeast Necropolis. Takayasu Higuchi and Kiyohide Saito, editors, *Tomb F - Tomb of BWLH and BWRP-Southeast Necropolis Palmyra, Syria* (Nara, Japan: Research Center for Silk Roadology, 2001). Takayasu Higuchi and Takura Izumi, editors, *Tombs A and C: Southeast Necropolis Palmyra, Syria, Surveyed in 1990–92* (Nara, Japan: Research Center for Silk Roadology, 1994).

[9] Marshall Joseph Becker, "Etruscan Infants: Children's Cemeteries at Tarquinia, Italy as Indicators of an Age of Transition," in *(Re)Thinking the Little Ancestor: New Perspectives on Archaeology of Infancy and Childhood*, edited by Mike Lally and Alison Moore, 24–36 (Oxford: Archaeopress, 2011) 30.

presenting the child's world within ancient cultures.[10] No archaeological articles or books have focused solely on Nabataean children. Nathalie Delhopital's doctoral dissertation is the only body of data focused on Nabataean children to date. Her dissertation provides biological information about skeletal remains of Nabataean children, but she did not use this information to reach any significant explanatory conclusions regarding the status of children in Nabataean society or Nabataean mortuary beliefs.[11] Many Nabataean archaeologists have only briefly mentioned or briefly touched upon the subject of Nabataean childhood.[12] My thesis contributes to the study of Nabataean mortuary studies by collating mortuary data from various Nabataean burial sites and providing a beginning study on Nabataean subadults.

To orient the reader to the region where the cultural and funerary data were retrieved for this study, this opening chapter provides a summary of Nabataean history, Nabataean mortuary studies, and contemporary child burial practices in the ancient Near East. In Chapter 2, a brief discussion and summary is provided of the use of Practice Theory and childhood studies in the archaeology of death and burial. Chapter 3 explains the dataset and methods that were used in collecting mortuary data from fourteen Nabataean burial sites. Chapter 4 discusses the quantitative analysis of the dataset presented in the previous chapter and briefly addresses the results of that analysis. Chapter 5 compares Scheidel's model life table with the fourteen

[10] Garroway, *Children in the Ancient Near Eastern Household,* 2014; Geofferty G. McCafferty, and Sharisse D. McCafferty. Boys and Girls Interrupted: Mortuary Evidence of Children from Postclassic Cholula, Puebla.In *The Social Experience of Childhood in Ancient Mesoamerica*, edited by Traci Ardren and Scott R. Hutson, 25–52 (Boulder, Colorado: University Press of Colorado, 2006); and Arietta Papaconstantinou and Alice-Mary Talbot, eds., *Becoming Byzantine: Children and Childhood in Byzantium* (Dumbarton Oaks Research Library and Collection, 2009).

[11] Nathalie Delhopital, "Du Monde Des Vivants Au Monde Des Morts En Nabatene, Entre Le 2e S. AV. J.-C. Et Le 4e S. AP. J.-C.: Approche Archeo-Anthropologique Des Tombes De Khirbet Edh-Dharih, Petra (Jordanie) Et De Mada'in (Arabie Saoudite)" (PhD diss, University of L'Universite Bordeaux, France, 2010).

[12] Johnson et al., "Interim Report," 2011; Perry, "Life and Death in Nabataea," 2002; Schmid, "Nabataean Funerary Complexes," 2008.

Nabataean burial sites discussed in Chapter 3. Chapter 6, the final chapter, provides closing remarks that discusses Nabataean subadult mortuary practices, as well as future research needed for archaeologists studying Nabataean subadult burials.

History of Nabataea

The term *Nabataean* refers to a social and cultural group of people who dwelled anciently in modern-day Jordan. The political kingdom that the Nabataeans established dated roughly from the third century BCE to the first century CE. The beginnings of Nabataean society are difficult to pinpoint, as no origin myth or written record has been discovered.[13] It has been both suggested and contested by archaeologists that the Nabataeans originated from southern Arabia.[14] For unknown reasons, the Nabataeans migrated north and eventually founded a capital city in Petra, now located in modern-day southern Jordan.[15] It is believed that the Nabataean social structure transitioned from that of a nomadic tribe to a settled, semi-permanent agricultural people in the third century BCE. The development of Nabataean society is divided into three broad chronological periods: the Early Nabataean Period (300 to 30 BCE), the Middle Nabataean

[13] Refer to Philip Hammond, *The Nabataeans: Their History, Culture and Archaeology*. Studies in Mediterranean Archaeology. Vol. 37 (Gothenburg: Coronet Books Inc, 1973); John F. Healey, *The Nabataean Tomb Inscriptions of Mada'in Salih*. Journal of Semitic Studies Supplement 1 (Oxford: Oxford University Press, 1993); M. Mouton, and S. G. Schmid, eds, *Men on the Rocks: The Formation of Nabataean Petra*. Proceedings of a Conference Held in Berlin 2-4 December 2011 (Berlin: Logos Verlag Berlin GmbH, 2013); Stephen Schmid, "The Nabataeans: Travelers Between Lifestyles," in *The Archaeology of Jordan*, edited by Burton MacDonald, Russell Adams, and Piotr Bienkowski, 367–426 (Sheffield: Sheffield Academic Press, 2001); Robert Wenning, "The Nabataeans in History," in *The World of the Nabateans: Volume 2 of the International Conference The World of the Herods and the Nabateans held at the British Museum, 17-19 April 2001*, edited by Konstantions D. Politis, 25–44 (Stuttgar, 2007).

[14] Discussions of the origins of the Nabataeans can be found in several sources: Iain Browning, *Petra.* Park Ridge (New Jersey: Noyes Press, 1973), 33; David F. Graf and Salah Said, "New Nabataean Funerary Inscriptions from Umm el-Jimal," *Journal of Semitic Studies* 51 (2006): 35; Hammond, *The Nabataeans,* 12.

[15] Robert Wenning, "North Arabian Deities and the Deities of Petra: An Approach to the Origins of the Nabataeans?" in *Men on the Rocks: The Formation of Nabataean Petra*, edited by M. Mouton, and S. G. Schmid, 335–342 (Berlin, Germany: Logos Verlag Berlin GmbH), and Wenning's other chapter in *Men on the Rocks*, "Towards 'Early Petra': An Overview of the Early History of the Nabataeans in its Context," 7–22.

Period (30 BCE to 40 CE), and the Late Nabataean Period (40 to ca. 250 CE).[16] Following the rise of permanent settlements the Nabataeans established their political kingdom, a governing body, a bureaucracy, a military, and a legal system.[17] By the first century CE, the Nabataean Kingdom had become a major player in ancient Mediterranean politics and in the caravan trade that linked the markets of the East with the Levant and the Mediterranean Basin.

The Nabataeans were first mentioned in written history by the Greek historian Diodorus Siculus, who lived during the Roman era. His record provides an outsider glimpse into the Nabataean way of life during the first century CE:

> For the sake of those who do not know, it will be useful to state in some detail the customs of these Arabs, by following which, it is believed, they preserve their liberty…some of them raise camels, others sheep, pasturing them in the desert. While there are many Arabian tribes who use the desert as pasture, the Nabataeans far surpass the others in wealth…for not a few of them are accustomed to bring down to the sea frankincense and myrrh and the most valuable kinds of spices…they are exceptionally fond of freedom.[18]

From this account, it appears that the Nabataeans retained much of their tribal social structures and forms of livelihood during their transition from a nomadic to a semi-sedentary culture.

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[16] David Johnson, "Nabataean Trade: Intensification and Culture Change," (PhD diss., University of Utah, 1987), 2; and Avraham Negev, "The Nabataeans and the Provincia Arabia." *Aufstieg und Niedergange der Romanischen Welt*, 2.8 (1977): 580.

[17] Jean-Francois Saliege, Antonie Zazzo, Christine Hatte, and Caroline Cauthier, "Radioncarbon dating in Petra: Limitations and Potential in Semi-arid Environments," in *Men on the Rocks: The Formation of Nabataean Petra*, edited by M. Mouton and S. G. Schmid, 79–91 (Berlin: Logos Verlag Berlin GmbH, 2013), 89.

[18] Diadorus Siculus, ed. and trans. R.M Greer, *Diodorus of Sicily Books XIX.66-110 and XX* (London: Heinemann, 1954), XIX 93.94.

Evidence from Petra suggests that the Nabataeans practiced a semi-sedentary existence, beginning in the third century BCE.[19] During the economic and political height of the Nabataean kingdom their borders extended to land located in modern southern Israel, Transjordan, Syria, and Saudi Arabia (Figure 1.1).

Diodorus recounts the wealth of the Nabataeans, which resulted from their expansive trading system as they controlled many of the caravan routes in the southern areas of the ancient Near East that brought exotic goods to the Greco-Roman world.[20] One of the renowned trade items that the Nabataeans controlled was frankincense, a resin used by peoples in the ancient Near East for medicine and for cultic activities. Other goods controlled by Nabataean caravan traders included, but were not limited to, myrrh, Dead Sea bitumen, medicinal plants, silk, and Jericho balsams.[21] Besides working the caravan routes, Nabataean livelihood also included, but was not limited to, merchantmen, manufacturers, middlemen, craftsmen, hydraulic engineers, and agriculturalists.

Although Petra and other Nabataean city centers housed various peoples, deities, and ideologies, Nabataean identity can be detected by the recording of familial units (tribes, clans, sub-tribal groups) and lineages on Nabataean documents, graffiti, inscriptions, and funerary epitaphs. Nabataean kinship terms demonstrate the emic view of Nabataean identity. An individual's social station was, in great part, acquired through the prominence of their familial linage. Family and tribal lineage was seemingly the backbone of Nabataean social structure,

[19] Johnson, "Nabataean Trade," 1.

[20] Hammond, *The Nabataeans*, 65.

[21] Johnson, "Nabataean Trade," 21, and Hammond, *The Nabataeans,* 68.

Figure 1.1. Map of Nabataean kingdom and major cities. Image: Nehme, "Ancient Hegra," 13.

coupled with economic and religious status.[22] The nucleus for Nabataean society is speculated to have been composed of tribal groups headed by leaders who gained and maintained their social positions by their ancestry and leadership abilities.[23] Even the position of the Nabataean king was "dependent on the approval of the powerful chiefs of noble families."[24] The king's leadership was also guaranteed on behalf of the tribes in general. Social groups maintained and challenged the structure of Nabataean society and way of life.

One socio-religious group that shaped and maintained Nabataean funerals was the practice of the *symposion* (or *marzeah*), communal feasting, and drinking.[25] A description of this practice is summarized by Strabo:

> Since they have but few slaves, they are served by their kinsfolk for the most part, or by one another, or by themselves; so that the custom extends even to their kings. They prepare common meals together in groups…the king holds many drinking-bouts in magnificent style…The king is so democratic that, in addition to serving himself, he sometimes even serves the rest himself in his turn. He often renders an account of his kingship in the popular assembly; and sometimes his mode of life is examined. Their homes, through the use of stone, are costly; but, on account of peace, the cities are not walled…They go without tunics, with girdles about their loins, and with slippers on their feet—even the kings, though in their case the colour is purple.[26]

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[22] Hammond, *The Nabataeans*, 111.

[23] Stephen Schmid discusses this theory in his chapter "Focault and the Nabataeans or What Space Has To Do With It," in *Men on the Rocks: The Formation of Nabataean Petra*, edited by M. Mouton and S. G. Schmid, 251–269 (Berlin: Logos Verlag Berlin GmbH, 2013), 257. Also, Schmid recognizes that there are various other social organizations in Nabataea that included religious organizations

[24] Schmid, "Focault and the Nabataeans," 257.

[25] The establishment of the *symposion* and *marzeah* are discussed by Estee Dvorjetski ("From Ugarit to Madaba: Philological and Historical Functions of the *Marzeah*." *Journal of Semitic Studies* 61.1 [2016]: 17–39), Schmid ("Focault and the Nabataeans," 258), and Isabelle Sachet ("Feasting with the Dead: Funerary Marzeah in Petra," in *Death and Burial in Arabia and Beyond: Multidisciplinary Perspectives*, edited by Lloyd Weeks, 249–248 [Oxford: Archaeopress, 2010]).

[26] Strabo, ed. and trans. H.L Jones, *The Geography of Strabo* (Cambridge, MA: Harvard University Press, 1930), 16.4.26.

The *symposion,* or *marzeah,* groups and associations were prevalent in the ancient Near East from the fourteenth century BCE to the sixth century CE.[27] Archaeological and textual evidence suggest that *marzeah* were practiced in multiple geographical locations, such as tribal gathering places including tombs, triclinia associated with tombs, and buildings associated with religious sanctuaries, and for multiple purposes, such as religious celebrations and the commemoration of the dead.[28] While textual evidence from Nabataea does not directly link the practice of the *marzeah* to funerary feasting, archaeological evidence has been interpreted by modern scholars as providing that link.[29] *Marzeah* associations and rituals thus seemingly played a significant role maintaining and changing the structure of Nabataean mortuary practices and the organization of mortuary structures.

Nabataean Mortuary Practices

Nabataean treatment of their dead, and associated ritual and social practices, are interpreted through the archaeological assemblages discovered during the excavation of Nabataean monumental and non-monumental tombs. The only written comment concerning Nabataean burial practices was related by Strabo (64 BCE – 23 CE): "they have the same regard for the dead as for dung, as Heracleitus says: 'Dead bodies more fit to be cast out than dung'; and

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[27] Evidence of other cultures that participated in the *marzeah* include those dwelling in Ugarit, Ebla, Phoenicia, Emar, Palmyra, Israel/Palestine, Elephantine, and Nabataea (Dvorjetski, "From Ugarit to Madaba," 17).

[28] Ibid., 18.

[29] Heaped pottery remains from Mampsis have been interpreted by Negev ("The Nabatean Necropolis of Mampsis [Kurnub]." *Israel Exploration Journal* 21 [1971]: 110–129) as evidence of ritual funerary feasting. Also, it is commonly interpreted by archaeologists working in Petra that triclinium associated with monumental tomb complexes were places were ritual feasting for the dead occurred.

therefore, they bury even their kings beside dung-heaps."[30] This observation by Strabo has confounded archaeologists and historians of Nabataea since at first glance it is in opposition to present archaeological evidence. A glimpse at the monumental tombs in Petra demonstrates the enormous amount of energy and economic expenditure Nabataeans applied to the treatment of their dead, indicating the socio-religious importance of the final resting place of the dead in Nabataean culture. The passage from Strabo has recently been interpreted as a cultural misunderstanding of the practice of secondary burial.[31] The only other evidence of Nabataean mortuary practices comes from the structures and material culture left behind and retrieved through scientific archaeological excavation and analysis.

Nabataean monumental rock-cut tombs and non-monumental tombs (i.e., any burial receptacle exposed to the elements) are among the most common burial structures utilized to entomb the dead. Monumental rock-cut tombs are among the most common architectural elements utilized for the burial of Nabataea's elites, which are speculated also to have included families of high economic status but of non-prestigious pedigree.[32] There are over 600 recorded monumental rock-cut tombs in Petra and 90 recorded in Hegra.[33] The majority of the monumental Nabataean tombs are carved into the sides of cliffs, usually in prominent places surrounding the city where they could be viewed daily by both the inhabitants and visitors to the

[30] Strabo, trans. H.L. Jones, *The Geography of Strabo*, 369.

[31] Secondary burial, as practiced by the Nabataeans, included the exposure of the deceased to desiccation by the sun and dry air in platforms on the tops of block tombs before burying the remains. It is also possible that this practice was done for religious reasons. Scholars who have suggested this explanation include Megan Perry, "Life and Death in Nabataea," 265-270, and David Johnson et a., "Five Rock Cut Shaft Tombs from Wadi Al-Mataha." *Annual of the Department of Antiquities of Jordan* 51: 339–344.

[32] Lucy Wadeson, "Nabataean Façade Tombs," 525.

[33] Lucy Wadeson, "Nabataean Tomb Complexes at Petra: New Insights in the Light of Recent Fieldwork." *Proceedings of the Australasian Society for Classical Studies* 32 (2001): 2.

necropolis. Many of these monumental tombs have carved facades displaying motifs like those used by other ancient Near Eastern cultures of the same time period.[34] Based on these designs and motifs, Brunnow and Domaszewski created the first Nabataean monumental tomb façade typology in 1904.[35] Analysis on the surfaces of the monumental tomb facades has revealed that most them had been plastered and painted.[36]

While the exteriors of the tombs were decorated, the interiors have almost no surviving decorations. Hammond speculates that the sparse decorations of the interiors might have been an original Nabataean design.[37] However, painted interiors inside tombs in Little Petra and Wadi Siyyagh in Petra proper indicate that the archaeological record may be incomplete in this regard.[38] The rock-cut interior space of a Nabataean tomb consisted of a square central chamber centered on the exterior doorway and surrounded by rock-cut graves, *loculi*, in the bedrock (Figure 1.2). These *loculi* were usually covered with stone slabs with the body buried underneath. Some multiple burials were deposited at different times in the same grave, making analysis of the remains difficult. Another type of burial receptacle utilized by the Nabataeans inside monumental rock-cut tombs were horizontal recesses cut into the tomb walls that acted as

[34] Such as those found in Syria and Persia, including crow steps (stepped crenellation) and tombs with classical architecture influenced by both syncretistic Persian builders that employed Greek and Egyptian artists, as well as influences of the Hellenistic styles in Egypt and Syria.

[35] R. E. Brunnow, and A. von Domaszewski, A. *Die Provincia Arabia.* Vol. 1 (Strassburg: Trubner, 1904); and Wadeson, "Nabataean Tomb Complexes at Petra," 3.

[36] Lucy Wadeson, "Petra: Behind the Monumental Facades." *Current World Archaeology* 57.1 (2013): 21.

[37] Hammond, *The Nabataeans,* 76.

[38] Bernhard Kolb, "Petra – From Tent to Mansion: Living on the Terraces of Ez-Zantur," in *Petra Rediscovered*, edited by Glenn Markoe, 230–237 (The Cincinnati Art Museum: Harry N. Abrams, Inc.), 236.

a shelf/ossuary where skeletal remains would have been placed.[39] The numerous types of burial receptacles demonstrate the importance in Nabataean belief of housing the body after death, and in the case of these tombs, housing them among other deceased kin. Significantly, the tombs of the Arab/Aramean societies at Palmyra, Syria, seem to indicate that a matriarch of a family determined who could be buried in a tomb complex based on kinship.[40]

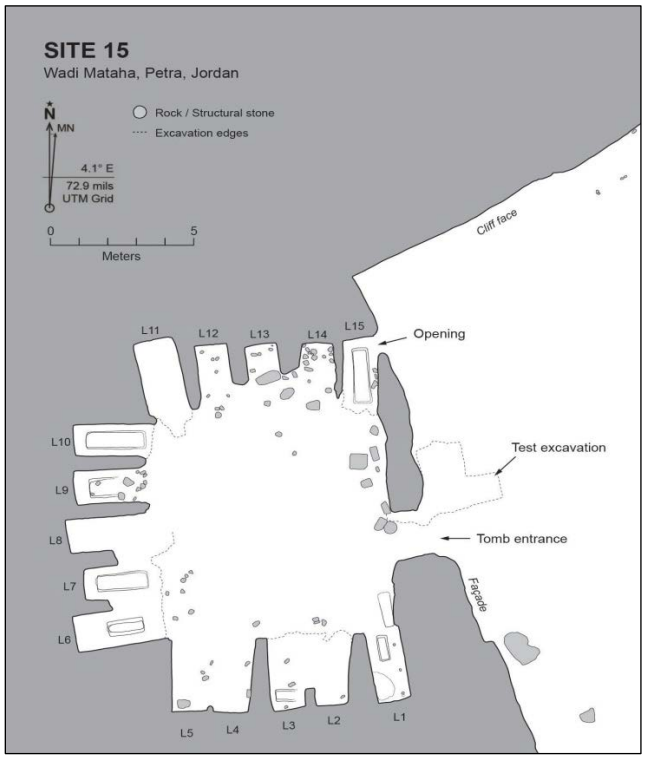

Figure 1.2. Interior of Tomb BD 676, with central chamber and surrounding *loculi*. Image: David Johnson.

[39] Burial niches are found in the monumental façade tombs at Petra and Hegra. Although, burial niches were used more in Hegra, 281 recorded and only 100 *loculi*. Whereas, in Petra burial niches are only recorded 77 times while 886 *loculi* are recorded (Wadeson, "Nabataean Façade Tombs," 520).

[40] Cynthia Finlayson, "*Mut'a* Marriage in the Roman Near East: The Evidence from Palmyra, Syria." In *The World of Women in the Ancient and Classical Near East*, edited by Beth Alpert Nakhai, 99–138 (Cambridge Scholars Publishing, 2008), 105.

During the beginning of the first century CE monumental tombs were commissioned, before death, by individuals of high social and economic status.[41] Inscriptions from Petra and Hegra indicate that these tombs were built to house the individual who commissioned the tomb and their family and descendants.[42] Aramaic inscriptions at both Petra and Palmyra indicate that there were complex legal systems in place that governed tomb ownership and transfers of burial *loculi* between individuals.[43] Organization of the interiors of the tomb has led archaeologist Lucy Wadeson to hypothesize that Nabataean interior tomb chambers reflect a family unit structured by a social hierarchy evident from the larger and more prominent burial space opposite the entryway in many tombs.[44] This prominent burial space is speculated to have housed the patriarch or matriarch of the family that commissioned the tomb, and from whom the other tomb inhabitants were descended. Often Nabataean monumental tombs are categorized as ancestral tombs.

Non-monumental tombs are also believed to have been possibly organized according to family units. In Petra alone, there are over 800 non-monumental tombs, most which are found in clusters and often near a monumental tomb (e.g. Figure 1.3).[45] Archaeologists have suggested that the simplicity and smaller size of these tombs indicate that they belonged to individuals of a

[41] During the second half of the first century CE smaller tombs began to be pre-carved and then sold to an individual, possibly indicating that individuals from the middle class could now afford tombs in a similar style to individuals of the higher class (Wadeson, "Nabataean Façade Tombs," 525).

[42] These inscriptions are legal codes that indicate the owner of the tomb, who may be buried inside, and who may not (Healey, *The Nabataean Tomb Inscriptions of Mada'in Salih*), 10.

[43] Finlayson, "*Mut'a* Marriage in the Roman Near East," 111.

[44] Wadeson, "Nabataean Façade Tombs," 512.

[45] Wadeson, "The Funerary Landscape of Petra: Results From a New Study," in *The Nabataeans in Focus: Current Archaeological Research at Petra*, Supplement to the Proceedings of the Seminar for Arabian Studies 42, edited by Laila Nehme and Lucy Wadeson, 99–126 (Oxford: Archeopress, 2012), 101.

lower socio-economic status than individuals buried in monumental tombs.[46] It is possible that non-monumental tombs were organized according to same social structure as monumental tombs: by family units.[47] Besides the similarity in burial organization around a common ancestor, these two types of burial structures also share similar burial installations.

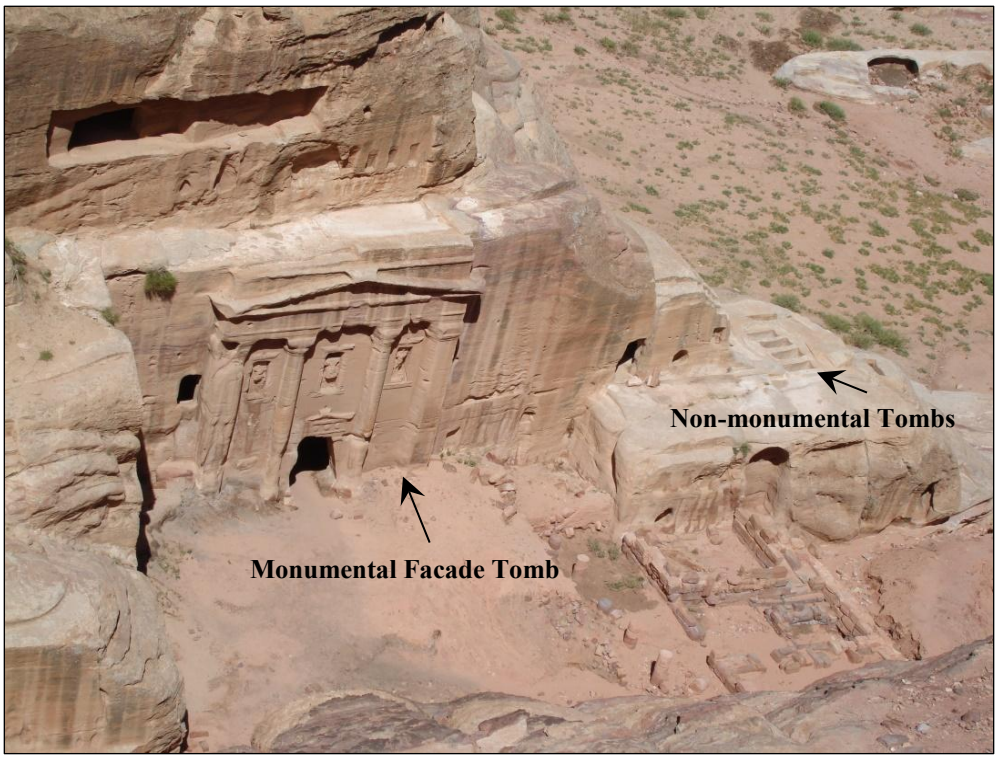

Figure 1.3. Non-monumental, shaft graves, associated with the Soldier's Tomb. Image: Courtney Ewert 2014.

[46] Although, these types of burial structures could indicate other factors beyond socio-political status, such as representing different traditions, chronology, or personal choice (Wadeson, "The Funerary Landscape of Petra," 103). Hammond claims, that "these non-monumental tombs [non-monumental tombs] parallel, probably for the average citizen, the loculi cut in the various chambers of the façade type tombs" in purpose of cultic deity (*The Nabataeans*, 48).

[47] David Johnson, Julie MacDonald and Deborah C. Harris, "Five Rock Cut Shaft Tombs from Wadi Al-Mataha." *Annual of the Department of Antiquities of Jordan* 51 (2007): 343; and Lenoble et al., "Fouilles de Khirbet edh-Dharih (Jordanie), I: le cimetiere au sud du Wadi Sharheh." *Syria* 78 (2001): 89–151; and Megan Perry, "New Light on Nabataean Mortuary Rituals in Petra," in *Studies in the History and Archaeology of Jordan XII*, edited by F. al-Khraysheh, 385–398 (Amman, Hashemite Kingdom of Jordan: Department of Antiquities, 2015), 392.

Both monumental and non-monumental tombs have associated burial installations of a cultic and religious nature. Some of these installations are described in the Turkmaniyah Tomb inscription carved above a monumental tomb in Petra:

> This tomb and the large burial-chamber within it and the small burial-chamber beyond it, in which are burial-places, niche-arrangements, and the enclosure in front of them and the porticos and rooms within it [i.e. the enclosure] and the gardens(?) and triclinium-garden(?) and the wells of water and the cisterns(?) and walls(?) and all the rest of the property which is in these places are sacred and dedicated to Dushara, the god of our lord, and his sacred throne and all the gods, (as) in the documents of consecration according to their contents. And it is the responsibility of Dushara and his throne and all the gods that it should be done as in these documents of consecration and nothing of all that is in them shall be changed or removed and none shall be buried in this tomb except whoever has written for him an authorization for burial in these documents of consecration for ever.[48]

This inscription, along with others recorded from Hegra, demonstrate the complexity of rituals and burial installations associated with Nabataean tombs. Also, this inscription demonstrates the physical, economical, and emotional energy Nabataeans invested in protecting and celebrating their dead.[49] Rituals and burial installations associated with Nabataean tombs, described in the above tomb inscription and from archaeological contexts, included ritual feasting, libation offerings, funerary inscriptions, and cultic symbols.[50]

Evidence of *marzeah* (discussed earlier in the chapter) being practiced as part of the funeral process have been inferred as associated with both Nabataean monumental and non-

[48] Healy, *The Nabataean Tomb Inscriptions of Mada'in Salih,* 238–239.

[49] Wadeson, "The Funerary Landscape," 104.

[50] Perry, "New Light on Nabataean Mortuary," 385–398.

monumental tombs.[51] Among the material remains excavated at the Nabataean non-monumental burial site Mampsis, located in southern Israel, Negev uncovered evidence of ritual communal feasting in the form of heaps of pottery associated with several graves.[52] Material remains found associated with monumental tombs have been uncovered in Petra and Hegra. In Petra, archaeologists Perry and Schmid claim to have uncovered evidence of funerary feasting in the North Ridge Tombs and Renaissance Tomb in in the form of various vessels, such as drinking bowls, fine plates, and coarse plates for storing and preparing food.[53] Tomb-associated architecture such as *triclinia*, or rock-cut benches, in Petra and Hegra are often interpreted as gathering places for family, or socio-religious groups, to participate in *marzeah* as part of Nabataean funerary rituals.[54] Ritual feasting is an indication that belief systems concerning the deceased influenced, and were influenced by, Nabatean social and religious behaviors.

Other burial installments found in, or near, burial structures are circular holes that were used to hold libations for the dead.[55] Strabo noted that the Nabataeans built an altar "on the top of the house" and poured "libations on it daily."[56] Offerings of libations to the deceased could potentially have occurred more often than ritual funerary feasting and might have been an

[51] Dvorjetski, "From Ugarit to Madaba," 30 and Negev, *Nabataean Archaeology Today* (New York: New York University Press, 1986), 86.

[52] Negev, *Nabataean Archaeology Today*, 86–92 and "The Nabatean Necropolis of Mampsis (Kurnub)," 125–127.

[53] Perry, "New Light on Nabataean Mortuary," 393, and Stephan G. Schmid, A. Amour, A. Barmasse, S. Duchesne, C. Huguenot, and L. Wadeson. "New Insights into Nabataean Funerary Practices," in *Proceedings of the 5th International Conference on the Archaeology of the Ancient Near East,* edited by J. M. Cordoba et al, 135–160 (Madrid: UAM, 2008), 138.

[54] Perry, "New Light on Nabataean Mortuary," 393, and Negev, *Nabataean Archaeology Today*, 87.

[55] For more about water and its use in Nabataean mortuary practices refer to Julie K. MacDonald, "The Ritual Use of Water by the Nabataeans at Petra" (Master's thesis, Brigham Young University, 2006).

[56] Strabo, trans. H.L. Jones, *The Geography of Strabo* 16.4.26.

individual Nabataean practice to commemorate the dead. This hypothesis is indicated from research done by Isabel Sachet who noted that libation holes were almost always in places where the living could access them inside and outside of monumental and non-monumental tombs (Figure 1.4). Libations, in the form of perfumes, could have been a means of "reorganization of the mortuary space" by the living, in that the offering changed the smell and ambiance of the space.[57] Like feasting, libation offerings were socially structured practices expected to be performed in a mortuary context either for specific deceased individuals or groups of individuals by a person or persons with a genealogical or other social or cultic connection to the interred within a burial context.

Figure 1.4. Libation holes outside a non-monumental tomb (left) and libation holes by a *loculus* inside a tomb (right). Images: Courtney Ewert 2014 and 2016.

Another type of Nabataean burial installation that impacted the living were the water storage areas associated with monumental and non-monumental tombs. These storage areas were

[57] Perry, "New Light on Nabataean Mortuary," 396.

receptacles that contained water located directly inside or outside a tomb that might have been used for purification or libation rituals.[58] It has been suggested that these water receptacles were used to purify an individual upon entering a sacred mortuary space.[59] Given Nabataea's close ties with Egypt, water may also have been offered to the 'thirsty dead' as a common libation.[60] Another common cultic element found in, or near, burials are niches, ornamental recesses in the wall that were used by Nabataeans for both religious and practical purposes. Once again, the burial installations of water storage areas and niches demonstrate how Nabataean mortuary practices were prevalent in the activities of the living to the extreme that the Nabataeans even altered the natural topography of their environment for the purposes of honoring the dead.

The physical construction of Nabatean tombs completes this discussion on the impact of Nabataean mortuary practices as an active agent influencing the structuring of Nabataean belief systems. The sacred nature of tombs and other burial structures is indicated from the Turkmaniyah Tomb funerary inscription, and so it is not surprising that most Nabataean tomb complexes were surrounded by a wall or had a gateway creating a *temenos* or sacred space demarcating sacred from profane space.[61] Doors and walls restricted access of participation of individuals to specific burial installations of ancestral tombs. It has been suggested that the

[58] Negev Wadeson, "Petra: Behind the Monumental Facades," 24. Water storage areas are also found inside and outside tombs in Palmyra.

[59] Ibid., 24. Negev suggests the possibility that the Nabataeans adopted the Jewish custom of considering mortuary spaces as unclean, this view has not been adopted by other Nabataean scholars ("The Necropolis of Mampsis," 127 and *Nabataean Archaeology Today*, 71).

[60] Based on conversation with Dr. Cynthia Finlayson.

[61] Schmid, "Focault and the Nabataeans," 252.

temenos marked where members of the *marzeah*, or relatives of the family tomb, could participate in mortuary practices and those not belonging to these groups could not enter.[62]

Nabataean Funerary Inscriptions

Nabataean funerary inscriptions containing kinship terms have been identified in association with both monumental and non-monumental tombs. The inclusion of familial identification in Nabataean funerary inscriptions is evident in most of the 123 inscriptions observed for this study.[63] These inscriptions were collected from preciously recorded and translated funerary Nabataean inscriptions gathered from Umm el-Jimal, Syria, and Hegra,[64] (Appendix I). The social identity of Nabataean individuals expressed in these funerary inscriptions is their membership in their familial community. Inclusion of ancestral lineage could have been for practice reasons, such as how one individual can be distinguished from another via genealogical descent lines in mortuary spaces. Or it is possible that the inclusion of the deceased

[62] Isabelle Sachet claims that "thus in private cult, families apparently performed their rituals inside the funerary chamber. In public cult, dedicants had no access to the funerary chamber and the sepulcher seems to have been closed to the public most of the time" ("Refreshing and Perfuming the Dead: Nabataean Funerary Libations," in *Studies in the History and Archaeology of Jordan 10,* edited by F. al-Khraysheh, 97–112 [Amman, Hashemite Kingdom of Jordan: Department of Antiquities, 2009], 110).

[63] Translations of inscriptions were gathered from Hussein Al-Qudrah, and Madhi Abdelaziz, "Kinship Terms in the Nabataean Inscriptions," *Arabian Archaeology and Epigraphy* 19 (2008): 193-197, Enno Littmann, "Semitic Inscriptions," in *Syria,* 1–93 (Publications of the Princeton Archaeological Expeditions to Syria, 1913), and Healey, *The Nabataean Tomb Inscriptions of Mada'in Salih.*

[64] Petra was excluded from this study because of a lack of time to gather these inscriptions and translate. To further this study the inscriptions from Petra should be analyzed. These inscriptions can be found in Laila Nehme, *Atlas archaeologique et epigraphique de Petra. Fascicule 1. De Bab as-Siq au Wadi al-Farasah* (Paris, 2013) and referenced in Nehme, "The Installation of Social Groups in Petra," in *Men on the Rocks: The Formation of Nabataean Petra*, edited by M. Mouton and S. G. Schmid, 113–128 (Berlin: Logos Verlag Berlin GmbH, 2013).

name and line of descent were for religious purposes, perhaps the deceased needed their name to be remembered to guarantee the perpetuation of the soul in the afterlife.[65]

The specific Nabataean belief system that requires the inclusion of familial lineage recorded where the Nabataeans dead were buried is unknown. What is known is that family clans and tribes were essential to the survival of individuals in the harsh environments of the Near East. Maintaining these familial and social relationships provided individuals with protection. Perhaps the recording of an individual's lineage on their tombstone was tied with protection in the afterlife as it was in life.

Tombstones, *nefes* or *nefresh*, from Nabataean non-monumental tombs in Syria and Umm el-Jimal demonstrate the importance of including kinship affiliations in Nabataean mortuary practices.[66] These tombstones record the name of the deceased along with the deceased's father's name, thus identifying the individual's familial associations, as well as their individual and unique identity.[67] The most common kinship term used in the Umm el-Jimal inscriptions are *br* (son of), making up 70 percent of the total terms used in the cemetery (Table 5.1). The second most common kinship term, *brt* (daughter of) made up 24 percent of total terms used. In Syrian cemeteries, the dominate kinship terms utilized, as recorded by Littmann, are also *br* (69 percent) and *brt* (25 percent).[68] These percentages articulate the prevalent inclusion of kinship terms and hint at their importance in the structure of Nabataean mortuary practices.

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[65] Hammond, *The Nabataeans*, 65. The association of the recording of the deceased name for religious purposes, and guarantee of the life of the soul after death, was practiced by the ancient Egyptians and could have been adopted by the Nabataeans.

[66] Khairy, Nabil I., and Khaled al-Jbour. "New Nabataean Inscription from Umm el-Jimal Area, Jordan," *Palestine Exploration Quarterly* 144 (2012): 185–190; and Littmann.

[67] Khairy and al-Jbour, "New Nabataean Inscription," 185.

[68] Enno Littmann, "Semitic Inscriptions." *Syria. Publications of the Princeton Archaeological Expecidtions to Syria*: 1–93. The percentages are from my own calculations based on Littmann's study.

Mada'in Salih (anciently called Hegra), located in northern Saudi Arabia, is a Nabataean burial site with over 100 monumental tombs. There are 36 recorded funerary inscriptions from Hegra carved into the rock lintels of the tomb entrances.[69] These inscriptions recorded the name of the deceased ancestral patriarch and/or matriarch who built the tomb and gave specific instructions and permissions for which of their descendants were allowed to be buried in the tomb. Some inscriptions also clarify that if one was not a descendant of the original owner of the tomb, she or he could not be buried there. Kinship terms found in the Hegra inscriptions are more nuanced than those found in the Nabataean cemeteries of Syria and Umm el-Jimal in Jordan.

Twenty-seven different kinship terms are recorded in the Hegra funerary inscriptions. These 27 terms were employed a total of 171 times in the 36 inscriptions. *Yld* (children) was the most used kinship term from Hegra (15 percent), with *br* (son of) as second (13 percent). The terms *brh* (daughter), *'nws* (man/person), and *sdq* (legal heir) were each eight percent of terms inscribed. Seven of the inscriptions have the occupation of the founder of the tomb recorded (physician, governor, omen-diviner, and centurion).

Appendix I lists 123 Nabataean inscriptions from Umm el-Jimal, Syria, and ancient Hegra. In those inscriptions, 27 different kinship terms and titles are recorded (Table 1.1). These 27 terms are recorded a total of 260 times in the 122 inscriptions. Overall, the most frequently recorded kinship term is *br* (son of) at 33 percent. The kinship terms *br* and *brt* do not indicate the age of the individual, but they do indicate the importance placed upon lineage to be recorded or remembered after death. Nine percent of the total terms used were *yld* (children). These inscriptions support the theory that Nabataean tombs were organized according to a family/tribe

[69] Healey, *The Nabataean Tomb Inscriptions of Mada'in Salih,* 44.

structure.[70] Inscriptions from non-monumental tombs focused on individuals and their immediate lineage. While age distinctions are not classified in Nabataean kinship terms, it is clear that most members of a family line were welcome to be buried in their ancestor's tomb; or in a geographical location associated by a family's ownership of property.[71]

Table 1.1. Nabataean kinship terms in funerary inscriptions from Umm el-Jimal, Syria, and Hegra (Inscription numbers refer to inscription numbers from Appendix I).

Terms	Umm el-Jimal Inscription No.	Syria Inscription No.	Hegra Inscription No.	Total
'b – father	4		7,29,34	4
'nth – wife		26	4,7,20,27,32,36,38	8
'm – mother			1,20,34,37	4
yld – children (collective noun)			1,3,4,5,7,8,9,10,14,19,20, 23,24,25,26,28,29,30,31, 32,33,34,35,36,38	25
wld – children (collective noun)			14,26,35,36	4
bny – children/sons			2,23,25,37,38	5
'hwth – sisters			1	1
'ht - sister			3,7,29,34	4
'h – brother			9,13,24,34,36	5
br – son of	1,3,4,7,8,10,11,12,1 3,14,15,16	1,2,4,5,6,7,10,11,14,18,19, 21,22,23,24,26,27,28,29,30 ,31,32,34,35,36,37,38,39,4 0,41,42,43,44,46,48,49,51, 52,54,59,62,63,64,66,67,68 ,69,70,71,72	1,2,3,4,5,7,8,9,10,19,20, 21,22,24,25,27,28,29,30, 31,32,36,38	85
brt – daughter of	2,5,6,9	8,13,15,16,17,20,33,45,47, 50,53,55,56,57,58,60,61,65		22
brh – daughter		3	11,12,14,16,23,24,26,27, 33,34,35,37,38	14
brth – daughter		12,25		2
bnt – daughters			3,5,7,9,10,11,12,23,25	9
hlt – maternal aunt			13	1
nsyb - father-in-law			36	1

[70] Wadeson, "Nabataean Façade Tombs," 511.

[71] As was discussed earlier in relation to the non-monumental tombs near the Soldier's Tomb, and the rock-cut shaft tombs in relation to the tomb complex structure 10 in Wadi Mataha.

Terms	Umm el-Jimal Inscription No.	Syria Inscription No.	Hegra Inscription No.	Total
htn - son-in-law			36	1
'hr – descendants (collective)			8,10,14,16,19,20,21,22,26 ,28,29,30,34,35,36,37,38	17
sdq/'sdq – legitimate heir/legal heir/kinsman			3,4,5,7,19,22,24,26,28,29, 33,34,36,38	14
yrt – heir			19	1
rsy – having the right/ authorized			3,4,9,10,26,31,32,34,36	9
rhq – alien/unrelated/ having renounced claim			3	3
'nws – man/person			3,4,5,8,9,10,12,19,26,31, 32,34,36,38	14
sy – physician			19	1
'srtg – governor			24,32,34,38	4
ptwr – omen-diviner			29	1
qntryn – Centurion			31	1
Total	**17**	**72**	**171**	**260**

Literature Review

Archaeologists excavating and/or researching Nabataean burial sites have noted an absence of infant and child skeletal remains.[72] These observations have brought up questions about whether age identity played a structuring role in Nabataean mortuary practices. While the archaeologists who noted absences or the underrepresentation of infant and child remains at Nabataean burial sites were briefly mentioned earlier, their observations are discussed in depth below.

It was during their excavations of Wadi Musa Site 25 (an-Naqla) in 1997 that archaeologists Khairieh 'Amr and Ahmed al-Momani noted an age discrepancy among

[72] Refer to note 5.

uncovered Nabataean skeletal remains.[73] The excavation revealed two monumental Nabataean family tombs that contained 15 adult burials, but no subadults.[74] It wasn't until 'Amr and al-Momani were digging a trench between the two tombs that subadult skeletal remains were found, two child burials in simple pits.[75] They speculate that these child burials "may be a reflection of the status of children in Nabataean society, probably akin to contemporary Roman beliefs that small children were not considered 'full humans.' "[76] 'Amr and al-Momani promote the idea that age identity played an essential structuring role in Nabataean belief systems. Indicating that an alternative mortuary practices for young Nabataean children from adult mortuary practices implies that adult Nabataean's viewed young children as not yet 'people.'

Stephan Schmid is currently working on the International Wadi Farasa Project and has been excavating and restoring in Petra the Renaissance Tomb.[77] Schmid states in his site report that there is a "total absence of small children (under age 6 years)" buried in the Renaissance Tomb.[78] He then inquiries, "could this be an indication that they [the children] received different funerary treatment?"[79] Schmid observed a similar phenomenon in the Renaissance Tomb concerning young child burials that 'Amr and al-Momani observed. While he does not provide a

[73] 'Amr, Khairieh, and Ahmend al-Momani. "Preliminary Report," 253–285.

[74] Ibid., 268.

[75] Ibid., 268.

[76] Ibid., 268. This theory has also been espoused by Eleanor Scott (*The Archaeology of Infancy and Infant Death*. BAR International Series 819 [Oxford, England: Archaeopress, 1999], 90) and J. Tyldesley (*Daughters of Isis: Women of Ancient Egypt* [London: Penguin Books, 1994], 75–76).

[77] Stephen Schmid, "Nabataean Funerary Complexes: Their Relation with the Luxury Architecture of the Hellenistic and Roman Mediterranean," In *Studies in the History and Archaeology of Jordan* 9, edited by F. al-Khraysheh, 205–219 (Amman, Hashemite Kingdom of Jordan: Department of Antiquities, 2008).

[78] Schmid, "Nabataean Funerary Complexes," 139.

[79] Ibid., 139.

theory to interpret this observation, he acknowledges that an absence of burial based on age could indicate a Nabataean belief system specific to the burial of young children. Nabataean archaeologists Perry, Johnson, and Melissa Cheyney noted different observations concerning young Nabataean child burials from Schmid, ‘Amr, and al-Momani.

Perry, a prominent bioarchaeologist in Nabataean studies and researcher of Nabataean subadult burials, is currently excavating burials inside the North Ridge Tombs.[80] In her site report, Perry notes that they excavated a primary burial of an infant, six months old, in a small wooden coffin.[81] Other subadult skeletal remains uncovered in the tombs were found commingled with adult skeletal remains in a pit grave with no distinction to their burial from adults.[82] Likewise, a perinatal burial with an associated grave good of a copper bracelet, bead, and pendent, was excavated by Cheyney in Tomb AA at Umm el-Jimal.[83] Cheyney et al. observed that there appeared to be a mortuary pattern at Umm el-Jimal of preferred treatment bestowed upon subadult individuals at death because of their tendency to be buried with status grave goods.[84]

Similarly, during the 2013 BYU Wadi Mataha excavation project David Johnson was excavating Nabataean burials inside a monumental tomb in Wadi Mataha in Petra. In one *loculus* he uncovered a primary burial of a subadult, age four to six years, with an associated grave good

[80] Perry, Megan A. “Life and Death in Nabataea: The North Ridge Tombs and Nabataean Burial Practices.” *Near Eastern Archaeology* 65.4 (2002): 265–270.

[81] Megan A. Perry, “Life and Death in Nabataea,” 269.

[82] Ibid., 269.

[83] Melissa Cheyney, Janet Brashler, Brent Boersma, Nathan Contant, Kimberly DeWall, Meghan Lane, Justin Smalligan, and Beth Vandern Berg, “Umm al-Jimal Cemeteries Z, AA, BB and CC: 1996 and 1998 Field Reports.” *Annual of the Department of Antiquities of Jordan* 53 (2009): 338.

[84] Ibid., 338.

of a cooking pot.[85] Johnson stated, "this burial is especially significant in that this is the first example of a large chamber and *loculus* used for the burial of an individual young child indicating high rank and ascribed status in the upper levels of Nabataean society."[86]

These comments from Nabataean burial site reports provide brief insights into the intricate mortuary practices of the Nabataeans. They also demonstrate the need for in-depth studies of Nabataean subadult burials and their potential to further understand Nabataean beliefs and practices. This thesis introduces these future studies on Nabataean subadults.

[85] David Johnson, Scott Ure, Allison Lee and Mariana Castro, "Interim Report on Four Seasons of Excavation of Wadi Mataha Site 15, BD Tomb 676" (Manuscript on file, Provo, Utah: Brigham Young University, 2013), 11.

[86] Ibid., 11.

2 | THE ARCHAEOLOGY OF DEATH AND BURIAL

In the past century, interpretation of mortuary and skeletal remains has gone through several theoretical shifts.[87] This chapter reviews the history of the archaeology of death and burial, focusing on its recent utilization of practice theory to explore cultural and social questions. Also, this chapter will review the history of the archaeology of childhood and current methods for interpreting ancient child burials. These methods and theories provide the interpretive framework I used to evaluate the data from the quantitative analyses in Chapters 4 and 5.

Mortuary Archaeology

Excavated mortuary remains were utilized to assemble cultural chronologies and to reconstruct ancient belief systems during the Cultural-Historical phase of archaeological history.[88] During the mid-twentieth century, several archaeologists, including Peter Ucko, Arthur Saxe, and Lewis Binford, argued that the then current interpretation of mortuary remains did not reflect the variety and complexity of ancient mortuary practices.[89] Ucko pointed out that mortuary practices were not static items to be uncovered but were the result of social practices.[90]

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[87] Brad Bartel, "A Historical Review of Ethnographical and Archaeological Analyses of Mortuary Practice." *Journal of Anthropological Archaeology* 1 (1982): 32–58

[88] Late-1800s to 1960 (M. Johnson, *Archaeological Theory*, 15).

[89] Peter J. Ucko, "Ethnography and Archaeological Interpretation of Funerary Remains," *World Archaeology* 1 (1969): 262–280; Arthur A. Saxe, "Social Dimensions of Mortuary Practices in a Mesolithic Population from Wadi Halfa, Sudan," in *Approaches to the Social Dimensions of Mortuary Practices,* edited by J. Brown, 39–57 (Washington D.C.:Memoir of the Society for American Archaeology 25, 1971); L. R. Binford, "Mortuary Practices: Their Study and Their Potential," In *Approaches to the Social Dimensions of Mortuary Practices: Issue 25 of Memoirs of the Society for American Archaeology American Antiquity,* edited by J. Brown, 6–29 (Washington D.C.: Society for American Archaeology, 1971).

[90] Ucko, "Ethnography and Archaeological," 263.

He argued that observed mortuary remains in the ground could elucidate a culture's complex social practices as reflected in their burial practices.[91] During the 1970s and 1980s, several archaeologists developed methods and theories for how the social practices of a culture could be interpreted from their mortuary remains.

Two of the newer methods for interpreting mortuary remains were developed in the early 1970s by Saxe and Binford (these methods were commonly used together and referred to as the Saxe-Binford approach).[92] Saxe's groundbreaking *Social Dimensions of Mortuary Practice,* 1970, outlined eight hypotheses that archaeologists could use when analyzing mortuary data. These hypotheses facilitated interpretation of a culture's social organization from a mortuary context. A year later, Binford wrote an article that complemented Saxe's eight hypotheses and added that the deceased individual's social personae could also be detected from a mortuary context.[93] These "social personae," as defined by Binford, are the social identities symbolized in burial that the deceased had maintained in life that the living "recognized as appropriate for consideration at death."[94] The Saxe-Binford approach provided a way for archaeologists to attempt to determine an ancient culture's social organization as well as the social status of the individual before death. Rightly or wrongly, religious belief was no longer a predominant or exclusive research topic for those studying mortuary remains.

Building upon the Saxe-Binford approach, archaeologists such as Joseph A. Tainter, Christopher S. Peebles, and Susan M. Kus, developed nuanced methods to determine a culture's

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[91] Ucko, "Ethnography and Archaeological," 263.

[92] Feldore McHuge, *Theoretical and Quantitative Approaches to the Study of Mortuary Practice* (Oxford: Archaeopress, 1999), 4–8.

[93] Binford, "Mortuary Practices," 17.

[94] Ibid, 17.

social organization and the social personae of the deceased from a mortuary context.[95] Tainter created an energy expenditure model, based on the theory that more energy is expended on the interment of individuals with higher social standing in a society, and less energy expended on individuals of a lower social standing.[96] Peebles and Kus contributed to the model by introducing two dimensions of social personae: superordinate and subordinate dimensions.[97]

Once the superordinate and subordinate dimensions were identified at a burial site, Peebles and Kus theorized that the culture's social organization could be determined.[98] Peebles and Kus's theory incorporated determining symbols indicative of different social dimensions and how to interpret them.[99] Dissatisfied with the Saxe-Binford approach, a new generation of archaeologists emerged in the mid-1980s with new ideas and theories.

Identified as Post-Processualists, these archaeologists aspired to go beyond interpreting social organization from mortuary remains, believing that cultural meanings could also be detected in a mortuary context. Leading this shift in archaeological theory were Michael Shanks, Christopher Tilley, Ian Hodder, and M. Parker Pearson.[100] They argued that archaeologists could

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[95] Joseph A. Tainter, "Social Inference and Mortuary Practices: An Experiment in Numerical Classification." *World Archaeology* 7 (1975): 1–15, Christopher S. Peebles, and Susan M. Kus. "Some Archaeological Correlates of Ranked Societies," *American Antiquity* 42 (1977): 421–448.

[96] Tainter, "Mortuary Practices and the Study of Prehistoric Social Systems," in *Advances in Archaeological Method and Theory*, vol. 1, edited by Michael B. Schiffer, 105–141 (Academic Press, 1978), 128–136. Tainter is using the term "social status" to refer to the social identities, economic status, and other attributes that created social stratification in a particular society (106).

[97] Peebles and Kus, "Some Archaeological Correlates," 421–448.

[98] Ibid., 421–448.

[99] Ibid., 421–448.

[100] Michael Shanks and Christopher Tilley, "Ideology, Symbolic Power and Ritual Communication: A Reinterpretation of Neolithic Mortuary Practices," in *Symbolic and Structural Archaeology,* edited by Ian Hodder, 129–154 (New York: Cambridge University Press, 1982); Ian Hodder, "Theoretical Archaeology: A Reactionary View," in *Symbolic Structural Archaeology*, edited by Ian Hodder, 1–18 (New York: Cambridge University Press, 1982); and Mike Parker Pearson, "Mortuary Practices, Society and Ideology: An Ethnoarchaeological Study," in *Symbolic Structural Archaeology*, edited by Ian Hodder, 99–113 (New York: Cambridge University Press, 1982).

unravel a particular society's cultural meanings that were imbedded in their mortuary practices through focusing on the symbolism present in mortuary architecture and contexts.[101] Specifically, they encouraged interpretation of those symbols utilizing Marxist ideology (the purposeful misrepresenting of identity or status in burial).

For example, Shanks and Tilley argue that symbolism observed in mortuary contexts of ritual activity takes an active role in the social construction of a culture's reality.[102] Thus, if a new, dominate social group has recently taken over control of the culture's social structure their graves might exaggerate royal symbols in order to legitimize their claim to power.[103] Symbolism in burial could imply shifts in cultural meaning that originated from political, environmental, economic, or religious change.

Ian Hodder emphasized the ancient individual's role in creating and maintaining cultural mortuary practices, stressing that individuals with particular economic, political, or personal goals constructed mortuary practices.[104] M. Parker Pearson also confirmed this theoretical point of view when he famously stated that "the reconstruction of social organization through the identification of roles…can be challenged by the theoretical stance that social systems are not constituted *of* roles but *by* recurrent social practices."[105] Parker Pearson defines social practice as individual actions that affect, and are affected by, the rules that create the structure of a society. While Binford stated that the social personae are reflected in burials, Parker Pearson countered

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[101] Shanks and Tilley, "Ideology, Symbolic Power and Ritual," 129.

[102] Ibid., 129.

[103] Ibid., 129.

[104] Hodder, "Theoretical Archaeology," 5.

[105] Parker Pearson, "Mortuary Practices, Society and Ideology," 100.

that social personae are created in burials, since social roles are not predefined but created through social practices.[106] Social personas are thus defined in this manner similar to the current archaeological concept of "identity."[107]

Identity studies emphasized that individuals have many simultaneous identities during their lifetime.[108] These identities can include gender, economic status, social status, ethnicity, religion, and so on. Often, identity is "context-dependent," that individuals produce and use objects to express different aspects of their identity. In burial, social identity can be one of the identities expressed. Often, but not exclusively, the people who buried the individual construct this identity. Social identity is often defined as the "knowledge, value, and significance attached by a person to her/his membership in a social group."[109] Since burial and funeral rituals are practiced by the community, social identity is often expressed from the material remains found in mortuary settings. The ideas and theoretical stances held by Shanks, Tilley, Hodder, and Parker Pearson are based upon a theory originating from French anthropologist Pierre Bourdieu in the late 1970s, known as "Practice Theory."[110]

[106] Binford, "Mortuary Practices," 17; Parker Pearson, *The Archaeology of Death and Burial*, 33.

[107] Jennifer C. Ross and Sharon R. Steadman, "Agency and Identity in the Ancient Near East: New Paths Forward," in *Agency and Identity in the Ancient Near East: New Paths Forward*, edited by Jennifer C. Ross and Sharon R. Steadman, 1–12 (London: Equinox Publishing, 2010), 1.

[108] Ross and Steadman, "Agency and Identity," 1.

[109] A. Bernard Knapp, "Beyond Agency: Identity and Individuals in Archaeology," in *Agency and Identity in the Ancient Near East: New Paths Forward*, edited by Jennifer C. Ross and Sharon R. Steadman, 193–200 (London: Equinox Publishing, 2010), 194.

[110] Pierre Bourdieu, *Outline of a Theory of Practice* (Cambridge: Cambridge University Press, 1977).

Practice Theory

Practice Theory seeks to explore actions of human behavior that has been influenced by a specific societal social structure while at the same modifying and creating new structures through the agency of individuals in the society.[111] In essence, human behavior was previously seen as dictated by a society's structure, and agency was not a factor in the interpretation of human behavior. Bourdieu did not agree that individuals were passive participants; he asserted that individuals actively participated in creating and recreating structures of society.[112] Post-processual archaeologists adopted Practice Theory as a scheme to interpret observed general patterns from material culture that could provide insight into how individuals influenced, and were influenced by, their society's structure and worldview.

Practice Theory acquired its name by its emphasis on the role that individual agency has on observed human behavior, otherwise known as "practice." Human actions are not predetermined, and in fact, they are often sporadic. While the majority of human behaviors "historically contingent and constituted by antecedent cultural practices and events" practice theory leans towards individual agency to explain human behavior.[113] Practice shapes structure, and structure shapes practice. The "shaping" of structure to practice, and vice versa, is through a concept that Bourdieu termed "habitus."[114]

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[111] Bourdieu, *Outline of a Theory of Practice*, 76.

[112] M. Johnson, *Archaeological Theory*, 108.

[113] John E. Clark, "Towards a Better Explanation of Hereditary Inequality," in *Agency in Archaeology*, edited by Marcia-Anne Dobres and John Robb, pp. 92–112 (New York: Routledge, 2000), 97.

[114] Bourdieu, *Outline of a Theory of Practice*, 72.

Habitus is a "socially constituted system of cognitive and motivating structures."[115] Stated another way, habitus is what is reasonable and what is unreasonable, according to a particular society's cultural norms and values or the intuitive understanding of how to properly behave in a certain culture.[116] For example, the concept of honor in a society might be explicitly taught, and/or reinforced through example and the inherent social practices in the culture. Practice theory is about the relationship between structure (rules) and practice (behavior) and how habitus affects this relationship.

Habitus is not only behavior that is taught or observed, it is behavior that is embodied. Habitus is learned through experience "as a growing and embodied confidence that is inculcated though a cumulative history of personal experiences gained in the company and with the approval or disapproval, of others."[117] Individuals learn practical and social experiences through living and being able to read the bodily dispositions of others.[118] Bourdieu asserts, "regular patterns of behavior occur as a result of practices generated through habitus, not through norms or rules."[119] Habitus is what creates normative behavior through socialization of children and through the embodied experiences and examples of community members.

Habitus as embodied experience includes the physical space of where actions are observed. The physical location of action plays a part in the learning process because "places may be pegs on which stories and meanings are hung, or may simply keep certain people

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[115] Ibid., 76.

[116] Ian Hodder and Scott Hutson. *Reading the Past: Current Approaches to Interpretation in Archaeology*. Third Edition. (New York: Cambridge University Press, 2003), 92.

[117] John C. Barrett, "Agency: A Revisionist Account," in *Archaeological Theory Today*, edited by Ian Hodder, 146–166. Second Edition (Cambridge: Polity Press, 2014), 155–156.

[118] Barrett, "Agency," 156.

[119] Hodder and Hutson, *Reading the Past*, 91.

separate from other people and things."[120] If physical locations and structures influence how habitus is learned, then physical objects also play a part in the embodied learning of habitus. Habitus is not alone in influencing practice. Symbols, rituals, and class can also affect practice.

Bourdieu's theory of practice began to be adopted by archaeologists studying death and burial in the 1980s because the theory accounts for the multiple contexts represented by a burial, such as the burial space, material culture found with or near the body, and the body itself, that then can be utilized for explanatory purposes. Archaeologists can understand principles behind cultural practices "through an examination of and involvement in objects arranged in space and in contexts of use."[121] Examination of mortuary objects and space, combined with the historical context of that particular society, can facilitate archaeological exploration into the cultural practices of that society. Relating to practice theory, Hodder and Hutson state that "it is exciting to realize that mundane items in the material world…can all play a part in the process of enculturation, in forming the social world."[122] In order to interpret mortuary behavior, archaeologists need to take into consideration the utilization of space and the physical remains of the body, in addition to the material remains found at a burial site.

Practice Theory allows archaeologists to recognize the material remains of human behavior that affected the cultural phenomena of burial. Also, it provides the interpretative tools to explore the cultural meanings and belief systems that affected the mortuary practices observed in an archaeological context. As an interpretive framework, practice theory is a useful tool to examine mortuary material and skeletal remains and to hypothesize as to the cultural meanings that influenced how the individuals lived and behaved. Forms of burial are also influenced by

[120] Ibid., 92.

[121] Ibid., 93.

[122] Ibid., 94.

social structure and individual agency. Child burials are a unique category in mortuary studies in that adults bury these individuals. Child burials are a reflection of an adult worldview, inculcated with adult cultural meanings of what it means to be a child. Given the previous discussion it is evident that the specific methods utilized by archaeologists in interpreting child burials and mortuary remains have been refined over the past two decades and will continue to evolve as new data sets and theoretical approaches are considered.

Archaeology of Childhood

The study of children in archaeology, and the acknowledgement of their marginalized position in the archaeological discussion of theory, started as a by-product of the feminist movement in the late twentieth century.[123] At that time, archaeological theory began to emphasize the variability and diverse cultural constructions of ancient definitions of gender, identity, and age categories. In 1989, a pivotal article by Grete Lillehammer introduced the archaeology of childhood, and presented a new perspective on how to view children in the archaeological record as well as how to understand "the child's world."[124] Since then, literature on the archaeology of childhood has expanded.[125]

Eva Baxter stated that the majority of scholar's view children in "peripheral roles" when children should be viewed as cultural actors "capable of making significant decisions in their own upbringing and making substantial contributions to their families, communities and

[123] M. Johnson, *Archaeological Theory,* 138.

[124] Grete Lillehammer, "A Child Is Born: The Child's World in an Archaeological Perspective." *Norwegian Archaeological Review* 22 (1989): 89–105.

[125] Baxter, *The Archaeology of Childhood*, 2005 and Sofaer Derevenski, *Children and Material Culture*, 2000.

societies."[126] It may be difficult to find evidence of children in the archaeological record, but the evidence is there.

One of the central platforms utilized by archaeologists studying ancient childhood is the concept that "age categories, like gender categories, are cultural constructs, rather than biological realities."[127] In Western culture, childhood is perceived as a time of dependence determined by biology, a perception that had previously been employed by archaeologists in their interpretations of ancient childhood. These perceptions led to incorrect assumptions about the active, as well as economic, role that ancient children held in their societies. Since Lillehammer's article, literature on the archaeology of childhood has emphasized the need to investigate each culture's age categories and definitions of childhood.[128]

Mortuary theory concerning the study of deceased children has undergone a paradigm shift in the last few decades. Instead of equating culturally-constructed age categories with biological categories, archaeologists are now combining osteological analysis with ethnographic, historic, and archaeological evidence to identify emic age categories in the past.[129] Ancient categories of age can be inferred by identifying differences in social statuses associated with biological age. Differential mortuary practices based on age is one piece of evidence that can help archaeologists determine ancient cultural constructs of social identity determined by age.

Since adults are the individuals who make mortuary architecture and features, child burials do not represent "the child's world." Instead, child burials are a reflection of adult

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[126] Baxter, *Children in Action,* 1.

[127] Kathryn A. Kamp, "Where Have All the Children Gone? The Archaeology of Childhood." *Journal of Archaeological Method and Theory* 8 (2001): 3.

[128] Ibid., 4.

[129] Baxter, *The Archaeology of Childhood*, 19.

remembrances of certain children and the "ideals and conceptions of childhood generally held by members of a particular culture."[130] Mortuary practices are symbolic representations of ancient social structures, belief systems, and worldviews. Therefore, identifying differential mortuary practices is a way of "identifying age categories that structured societies in the past" and the worldviews that accompanied these age categories.[131] Observing differential burial treatments according to age categories can elucidate when biological age matched a structure in a particular society.[132] Identifying biological age categories that relate to specific burial patterns (e.g., burial structures, burial location, burial position, and grave goods) can facilitate an understanding of the adult's views of the child's world in a specific culture during a specific time period and place.

One particular age category discussed among archaeologists studying mortuary practices concerns individuals who died before attaining any social identity, and therefore, of a status considered not-yet-human. Some archaeologists believe that individuals that were considered "non-entities" can be identified in the archaeological record by the absence of an age group from formal or communal burials. For example, Eleanor Scott and Joanna Sofaer Derevenski have questioned the meaning behind the absence of neonates from communal burials in pre-industrial cultures.[133] Studying the association of artifacts, burials, age, sex, and gender at Tiszapolgar-Basatanya, Sofaer Derevenski makes a case "for a perceived absence of neonate personhood as an explanation for the neonatal exclusion" in the cemetery.[134] Various degrees of personhood

[130] Ibid, 94.

[131] Ibid, 97.

[132] Perry, "Redefining Childhood," 89–114.

[133] Scott, *The Archaeology of Infancy*, 90.

[134] Ibid., 90. Also see Joanna Sofaer Derevenski, "Age and Gender at the Site of Tiszapolar-Basatanya, Hungary," *Antiquity* 71(1997): 875–889.

and social identity have been identified through mortuary remains. Several archaeologists have begun to explore the point in time at which infants and children became recognized as full members of their societies, or thus having achieved personhood as symbolized in burial.[135]

There are four main social dimensions that are symbolized through differential burial treatment: age, gender, vertical status, and horizontal status. Age has already been discussed. The gender dimension can affect mortuary practices of individuals. Often the gender dimension is observable when females and males are buried with different kinds of grave goods, or different amounts of grave goods. Sometimes burial structure and cultic symbols marks the gender of the deceased. Unless there are gender specific grave goods, the gender of an infant or child is difficult to determine because its bones have not been fully formed.[136] Broadly, the vertical dimension in burial refers to the social wealth and social prestige a deceased individual obtained in life or inherited. The horizontal dimension refers to kin-based groups, such as lineages, clans, moieties, and non-kin based groups, such as membership in a specific religion.[137] Identifying these dimensions at a burial site can help archaeologists determine whether there are any patterns that might elucidate the social persona of the deceased individuals under study.

When discussing aspects of childhood and birth, many historians and scholars attempt to determine the ancient demography of infancy in a given region. The infant mortality rate (IMR) calculates the number of deaths per thousand births. This statistic is used because it helps

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[135] Garroway, *Children in the Ancient Near Eastern Household*, 2014; McHugh, *Theoretical and Quantitative,* 1999; Perry, "Redefining Childhood," 2005.

[136] Eva Jane Baxter, *Children in Action: Perspectives on the Archaeology of Childhood*. Archaeological Papers of the American Anthropological Association No. 15 (Berkeley, California: University of California Press, 2005), 3.

[137] Parker Pearson, *The Archaeology of Death and Burial*, 74 and McHugh, *Theoretical and Quantitative,* 40.

historians recreate population "structures and to illustrate family and life course dynamics."[138] Using a model life table, Tim Parkin, calculated that during the Roman Empire the IMR was 300 infant deaths for a thousand births.[139] Marshall Becker provides a higher IMR, claiming that "biological studies of non-industrial societies reveal normal infant mortality rates of 50% or greater, with perinatal mortality accounting for most of these figures."[140] While calculating model life tables helps to assess the demographic realities of the time, they should be approached with caution. Such numbers can be used as guides, but room for regional differences should be expected. Parkin, and other scholars make the argument that just because there was a high IMR does not mean that children were less valued in those societies.[141]

There are some limitations in using practice theory. Mainly, that it only accounts for cultural processes in determining disposition of infants and does not address environmental process that might have effected disposition.

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[138] Tim Parkin, "The Demography of Infancy and Early Childhood in the Ancient World," in *The Oxford Handbook of Childhood and Education in the Classical World*, edited by Judith Evans Grubbs, Tim Parkin, and Roslynne Bell, 40–61 (Oxford: Oxford University Press, 2013), 48.

[139] Parkin, "The Demography of Infancy," 48.

[140] Becker, "Etruscan Infants," 24.

[141] Parkin, "The Demography of Infancy," 48.

3 | METHODS AND DATASET

Archaeological data that were collected for this study include information on 544 individual skeletal remains excavated from fourteen Nabataean burial sites. The following sections summarize the methods that were employed in deciding which burial sites to use for this study and the methods for the resulting quantitative analysis. A summary of each burial site is provided below with data about the skeletal remains excavated from it, along with a complete list of mortuary data for each site listed in Appendix I.

Methods

The methodology followed in this thesis comes from several different studies. The primary influences were Becker's study on the under-representation of Etruscan infants in cemeteries, James M. Potter and Elizabeth M. Perry's study of an American Southwest community's identity from mortuary features, David Michael Smith's study of identity and child burials in the Early Helladic Peloponnese, and Kristine Garroway's work on children in the ancient Near East.[142] These researchers utilized quantitative methods to observe general burial patterns and to identify cultural age ranges based on differential burial treatments.

Quantitative analysis has long been utilized to organize and study mortuary data.[143] Since the 1970s, the most commonly used method to study mortuary data was the Saxe-Binford

[142] James M. Potter and Elizabeth M. Perry, "Mortuary Features and Identity Construction in an Early Village Community in the American Southwest." *American Antiquity* 76.3 (2011): 529–546; David Michael Smith, "Reconciling Identities in Life and Death: The Social Child in the Early Helladic Peloponnese." *Childhood in the Past* 4.1 (2001): 46–62; and Garroway, *Children in the Ancient Near Eastern Household*, 2014.

[143] Todd L. Howell and Keith W. Kintigh, "Archaeological Identification of Kin Groups Using Mortuary and Biological Data: An Example from the American Southwest." *American Antiquity* 61.3 (1996): 537–554; Potter and Perry, "Mortuary Features and Identity," 2011; Tainter, "Mortuary Practices," 1978.

approach, which analyzed burial patterns as a tool to understand past social organization.[144] Because of the logical flaw of equating burial patterns to social organization in all cultures, the application of quantitative methods and their interpretations for burial patterns have evolved in mortuary studies since the 1970s.[145] Current quantitative methods employed in organizing general burial patterns include descriptive statistics and multivariate analyses.

Descriptive statistics are utilized in this study to quantify and compare data from individual Nabatean burials. The following burial descriptive categories were chosen: (1) specific biological age, (2) biological age category, (3) biological sex, (4) grave goods, (5) burial structure, and (6) burial receptacle. Software programs that will be used for this analysis are Microsoft Excel and Minitab 17 Statistical Software.

Cluster analysis, a form of a multivariate analysis, is employed here to organize grave goods based on similarities.[146] Difficulties with using cluster analysis to group mortuary data have been discussed at length by archaeologists.[147] Cluster analysis is used in this study to group Nabataean grave goods based on similarity. Because of the variety of grave goods (refer to Appendix II), 14 different categories were created based on material and use: ceramics, faunal bone, wood, coins, stone, textiles, leather, sandals, glass, metal, jewelry, shell, amulets, and no associated grave goods. Grave goods were analyzed using cluster analysis of variables. These variables were measured using a presence-absence matrix, where the variables range from 0 to 1.

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[144] Binford, "Mortuary Practices," 1971; John. O'Shea, "Cluster Analysis and Mortuary Patterning: An Experimental Assessment." *To Pattern the Past: Symposium Organized by the Commission IV of the International Union of Pre-and Protohistoric Sciences (UISPP)* (1984): 91–108; Saxe, "Social Dimensions of Mortuary," 1971.

[145] McHugh, *Theoretical and Quantitative,* 1–9; David P. Braun, "A Critique of Some Recent North American Mortuary Studies," *American Antiquity* 46.2 (1981): 398–416.

[146] Robert D. Drennan, *Statistics for Archaeologists: A Common Sense Approach*. Second Edition (New York: Springer, 2010), 309–320.

[147] McHugh, *Theoretical and Quantitative,* 1999; O'Shea, Cluster Analysis," 1984.

Variables that are similar are given a 1, variables that are not alike are given a 0.[148] The distance measure used was a correlation coefficient, and the linkage method was Ward's Method. The software program used for the cluster analysis was Minitab 17 Statistical Software. Data from Hegra is utilized in all the analyses except the cluster analysis on grave goods since grave goods were not recorded in the Hegra site's reports.

It is imperative to keep in mind that quantitative analysis is only a tool to reveal possible general burial patterns; it cannot interpret what the patterns represent.[149] Interpretation of burial patterns observed in these analyses will be discussed in Chapter 6.

Dataset

The dataset for this study includes 544 individual skeletal remains recovered from Nabataean burial sites. It should be noted that the majority of these remains were found in a fragmentary state (refer to Appendix II). These human remains were excavated from 14 Nabataean burial sites located in modern day Jordan and Saudi Arabia, with the burial dates ranging between ca. 300 BCE to 400 CE. The Nabataean burial sites were chosen based on whether their original excavation reports recorded age or biological age categories (infant, child, adult, etc.) of the human remains and had an infant or child burial at the site. Sites were also chosen to reflect both low and high social statuses and/or economic wealth. These criteria limited the selection of Nabataean burial sites to the 14 summarized below.

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[148] Mark S. Aldenderfer and Roger K. Blashfield. *Cluster Analysis*. Quantitative Applications in the Social Sciences (London: Sage Publications, 1984), 29.

[149] Catalin Nicolae Popa, "'Till Death Do Us Part' A Statistical Approach to Identifying Burial Similarity and Grouping. The Case of the Late La Tene Graves from the Eastern Carpathian Basin," in *Iron Age Rites and Rituals in the Carpathian Basin*, Proceedings of the International Colloquium from Targu Mures, 7-9 October 11, edited by Sandor Berecki, 401–412 (Targu Mures: Editura Mega, 2012), 402.

In order to select sites based on differing social and economic status, burial sites were identified as belonging to the lower or upper social classes, based on the amount of energy expended on the burial structure.[150] Monumental tombs require a greater amount of energy expenditure than did non-monumental tombs and thus are designated as having housed individuals of upper social and economic status.[151] Non-monumental tombs display less energy expenditure than do tombs and were designated as pertaining individuals of lower social and economic status.[152] Monumental tomb burial structures, indicative of the Nabataean upper classes, are found at nine of the fourteen sites selected for this study and include 66 percent of the skeleton remains examined for this thesis. The remaining five sites are non-monumental tombs, indicative of the Nabataean lower classes, and represent 34 percent of individuals in my sample.

In order to distinguish mortuary practices specific to Nabataean subadults, a comparison with Nabataean adult burials needed to be conducted.[153] My study examines all biological age categories represented at the burial sites. This comparison assists in identifying differences in burial practices based on age identity. Many of the 14 site publications consulted to collect the dataset did not define age category terms, such as "infant," "child," "juvenile," and therefore the biological age range for these terms is unknown (refer to Chapter 1 to review the discussion on the meanings and importance of cultural age ranges verses biological age ranges). To streamline

[150] David Johnson, 2015 personal communication; and Tainter, "Social Inference and Mortuary Practices," 1975. This assumption is problematic because while graves can be outside a tomb, there is a chance that they still might have been associated with the family in that tomb. For example, the family tomb might have been full so descendents might have been buried outside in order to be near their ancestral tomb.

[151] Parker Pearson, *The Archaeology of Death,* 75.

[152] Ibid., 75.

[153] Nabataean cemeteries without subadult burials were excluded from this study; after the study was completed it was recommended that these should have been included. This issue will be addressed in Chapter 5.

biological age ranges used in this study I adopted Tim D. White, Michael T. Black, and Pieter A. Folkens's age ranges from their book *Human Osteology*:[154]

- before birth
- seven months in utero to birth
- One month after birth
- birth to three years old
- Three years old to 12 years old
- 12 years old to 20 years old
- 20 years old to 35 years old
- 35 years old to 50 years old
- 50+ years old

In reports where biological age ranges were recorded that overlapped the age ranges above (e.g. 30-38) I decided to assign the age category of that individual to the age range which the majority of the estimated age overlapped. For example, if an individual was reported as having a biological age of 30-38 years old at time of death, this individual was classified in my study as a "young adult" since only two of those years qualify for the range of "middle adult." This logic for adjusting biological ages to general categories will be applied to all ages recorded in the site reports (see Appendix II). It should be noted that these biological age categories do not represent the cultural age category Nabataeans would have assigned to biological ages because of their life expectancy.

Burial structure (monumental tomb or non-monumental tomb), age, biological age category, biological sex, body position, body orientation, fragmentation of the bones, burial date, grave goods, and the looted status of the burial were recorded in Appendix II.

Limitations

There are multiple limitations in this analysis that need to be acknowledged. First, the sites used in this study were not randomly selected but were chosen based on the criteria

[154] Tim D. White, Michael T. Black, and Pieter A. Folkens, *Human Osteology*. Third Edition (New York: Elsevier Academic Press, 2012), 385.

mentioned above. Second, none of the archaeological site reports articulately define the biological ages of the age category terms they employed. Third, there are some disputes concerning whether burial sites at Khirbet edh-Dharih, the Cemetery at Queen Alia International Airport, and Umm el-Jimal actually represent a homogenous Nabataean community.[155] Since these sites are located within the ancient boundaries of the Nabataean kingdom and were used during the Nabataean period they are counted as representing Nabataean burial practices for this study. Lastly, the four archaeological site reports from Hegra do not report which skeletal remains were found buried together.[156] Hegra's site reports provide a complete list of age and sex of skeletal remains but no burial numbers are identified with the remains. Therefore, the analyses that explore Nabataean individuals housed in a single burial exclude the individuals from the Hegra tombs. When these burial sites are excluded it will be noted.

In the sections that follow, brief summaries of each burial site analyzed for this study are reviewed. These descriptions introduce the location of the site, time period of burial, authors of

[155] It is believed that political refugees from the annexation of Nabataea fled to Khirbet edh-Dharih. Perry, et al. tested this hypothesis through strontium isotope analysis but did not get clear results. She states that the individuals here could have migrated from Petra (Megan A. Perry, Drew Coleman, and Nathalie Delhopital, "Mobility and Exile at 2nd Century A.D. Khirbet edh-Dharih: Strontium Isotope Analysis of Human Migration in Western Jordan." *Geoarchaeology* 23.4 [2008]: 528–549). The uncertainty of the Umm el-Jimal burials is noted because only two of the tombs and one cemetery are located within the limits of the Nabataean-Roman-Byzantine town and therefore the rest of the burials might indicate a different cultural group (Cheyney, "Umm al-Jimal Cemeteries Z, AA, BB and CC," 355). There is some question concerning the QAIA burials because they are missing lamps which the excavators state help to identify Nabataean burials and this lack of lamps make them uncertain if these burials are Nabataean (Moawiyah Ibrahim, and Robert L. Gordon. *A Cemetery at Queen Alia International Airport* [Wiesbaden: Otto Harrassowitz, 1987], 38).

[156] I.e., adult and subadult; Nathalie Delhopital and Isabelle Sachet, "Area 5: Excavations in the Monumental Tombs," in *First Excavation Season at Mada'in Salih*, edited by Laila Nehme, Daifallah al-Talhi, and Francois Villenueuve, 207–258 (Saudi Arabia, 2008) and "Monumental Tombs, Area 5" in *Report on the Second (2009) Season of the Mada'in Salih Archaeological Project*, complied by Laila Nehme, Fancois Villeneuve, Daifallah Al Talhi, A. Al Anzi, Charlene Bouchaud, Guillaume Charloux, N. Delhopital, Caroline Durand, Zbigniew T. Fiema, Yvonne Gerber, et al., 165–216 (halshs-00548747, 2009).; and Nathalie Delhopital, "Archeological Fieldwork on the Nabataean Tombs," in *Report on the Fifth Season (2014) of the Madâ'in Sâlih Archaeological Project*, edited by Laila Nehme, Wael Abu-Azizeh, Thomas Bauzou, Caroline Durand, Jerome Rohmer, Ibrahim As-Sabban, Nathalie Delhopital, Khalid Alhaiti, Maher Al-Musa, Yvonne Gerber, et al., 141–170 (Paris: Claire Carpentier, 2014).

the site report, summary of observed mortuary practices, and a table clarifying the count of individuals per age categories present. The complete data recorded from these archaeological sites are listed in Appendix II.

Site 4, Wadi Mataha, Petra, Jordan[157]

Nabataean burial Site 4 is located in the northeastern section of the Petra Archaeological Park in Wadi Mataha. Burial Site 4 encompassed five open-air shaft graves; which fall under the term non-monumental tombs for this study (Figure 3.1). The Brigham Young University's Wadi Mataha Expedition, under the direction of David Johnson, excavated the site from 1999 to 2005. These graves were dated by David Johnson to the early-to-mid late first century CE.[158] The five open-air shaft graves are positioned in a line, perpendicular to each other. The first grave excavated was designated as A, with the other graves following as B, C, D, and E. All the graves except D were partially disturbed in antiquity.[159] Graves A, B, and E have the appearance of primary burials, while graves D and E have the appearance of secondary burials. Seven individual's skeletal remains were found in the graves (Table 3.1).

Johnson interprets the site as pertaining to the burial of a lower-class family group.[160] The individuals buried are identified socially as lower class individuals since the burial structures are non-monumental tombs, lack grave goods (which could be contributed to looting), and associated ritual physical structures. While economically the graves represent a lower-class

[157] David Johnson, et al., "Five Rock Cut Shaft," 339–344.

[158] Ibid., 340.

[159] Ibid., 339.

[160] Ibid., 344.

family, their proximity to a monumental tomb could suggest that individuals in these graves shared a common ancestor with individuals buried in the tomb.

Figure 3.1. Site 4, Wadi Mataha, Petra, Jordan. Image: Courtney Ewert 2016.

Table 3.1. Counts of individuals by age range from Site 4, Wadi Mataha.

Burial #	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
A	1	-	-	1
B	1	-	-	1
C	-	-	1	1
D	-	1	2	3
E	-	1	-	1
Total	2	2	3	7

Site 13, Wadi Mataha, Petra, Jordan[161]

Located on the western side of Wadi Mataha, Site 13 is composed of a single open-air shaft grave (non-monumental tomb). The burial dates to the late first century CE, based on the

[161] David Johnson, "Brigham Young University Wadi Mataha Project: 20 May through 10 June 2007" (Manuscript on file, Provo, Utah: Brigham Young University, 2007).

ceramic fragments found in the burial.[162] Brigham Young University's Wadi Mataha Expedition excavated the site under the direction of D. Johnson. The grave contained the fragmentary skeletal remains of a young female adult and an individual aged three to 12 years.[163] Since the grave has been disturbed in ancient and modern times, it is unclear whether the individuals were interred at the same time or whether the grave was reused after an initial burial. From the lack of grave goods (which can be explained from looting) and associated ritual physical structure, the grave's inhabitants most likely represent individuals of the Nabataean social lower class.[164]

Site 15, Wadi Mataha, Petra, Jordan[165]

Site 15 is a monumental façade rock-cut tomb, Tomb BD 676, located in Wadi Mataha, Petra, Jordan. Brigham Young University's Wadi Mataha Expedition excavated the site from 2008 to the present, under the direction of D. Johnson. The tomb dates from the late first century BCE to the late first century CE. Inside the tomb is a large, rock-cut square interior space with 15 *loculi* located along three of the sidewalls, five along each wall (Figure 3.2).[166] Fragmentary skeletal remains were found in *loculi* 5 through 10, 12, 14, and 15 (Table 3.2).

[162] Ibid., 7.

[163] Ibid., 7.

[164] Personal conversation with David J. Johnson, 2016.

[165] Johnson et al., "Interim Report," 2013.

[166] Ibid., 8.

Figure 3.2. Sketch map of Site 15, Wadi Mataha. Image: Courtesy of David J. Johnson.

Table 3.2. Age range of skeletal remains from Site 15, Wadi Mataha.

Burial #	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
L6	1	-	-	1
L7	-	-	1	1
L8	-	-	1	1
L9	-	-	1	1
L10	-	1	-	1
L12	1	-	1	2
L14	-	-	1	1
L15	-	-	2	2
Total	2	1	7	10

The individual found in *Loculus* 6 is one of the few examples of a primary burial of an individual within the age range of three to 12 years in a monumental tomb.[167] Associated with this burial in L6 was a nearly complete cooking pot of dark red, painted coarse ware with two large handles. As evidenced by the size of the chamber, prominence of grave goods, and energy expended on the burial, Johnson has interpreted this burial as an indication that Nabataeans did ascribe status to a deceased child.[168]

In *Loculus* 12, fragmentary skeletal remains of individuals between the ages of three to 12 years and a female aged 20 years were excavated.[169] Found in the burial were 10 gold pendants and beads of precious stones; it is unclear whether these pieces were associated with the young woman, the child, or both (Figure 3.3).[170] Unlike the burial from L6, this burial may or may not represent a unique wealthy Nabataean child burial.

Figure 3.3. Ten gold pendants and nine beads from Site 15, Wadi Mataha. Courtesy of David Johnson.

[167] Ibid., 11.

[168] Ibid., 11.

[169] Ibid., 11.

[170] Information was taken from Johnson's 2013 site report and from personal conversation

Site 16, Wadi al-Mataha, Petra, Jordan[171]

Located in the Jebel Mudhlim region, in the northern drainage of Wadi Mataha, lays Site 16.[172] This site consists of a monumental tomb that dates from between the second century BCE to the late first century CE.[173] Inside this tomb is a chamber surrounded by 12 *loculi*. *Loculi* A and L are located along the western wall, oriented east to west. *Loculi* B through F are located on the northern wall, oriented north to south. *Loculi* G through K are located against the south wall, oriented north to south.

Among the vast quantity of bone fragments, 61 individuals were identified among the 12 *loculi* (Table 3.3).[174] The commingled fragmentary bones suggest that secondary burial was the prominent for of mortuary practiced at Site 16. While these graves have been disturbed and looted, the grave goods that remain consists of ceramic fragments, including unguentarium and wood chips.

[171] David Johnson, "A Nabataean Chamber Tomb and Carved Block in the Wadi Mataha, Petra, Jordan," in *Studies on the Nabataean Culture I: Refereed Proceedings of the International Conference on the Nabataean Culture*, edited by Nabil I. Khairy and Thomas M. Weber, 119–126 (Amman, Jordan: Publications of the Deanship of Scientific Research, The University of Jordan, 2013).

[172] Ibid., 120.

[173] Ibid., 122.

[174] Ibid., 121–122.

Table 3.3. Age ranges of skeletal remains from Site 16, Wadi Mataha.

Burial #	7 mos. in utero	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
LA	1	-	1	1	6	9
LB	-	-	2	1	4	7
LC	1	-	1	1	4	7
LD	-	1	1	2	4	8
LE	-	-	1	1	3	5
LF	1	1	-	1	2	5
LG	-	-	-	-	2	2
LH	-	-	-	-	3	3
LI	-	-	-	1	2	3
LJ	-	-	1	-	3	4
LK	-	-	-	-	3	3
LL	1	-	-	1	3	5
Totals	4	2	7	9	39	61

North Ridge Tombs, Petra, Jordan[175]

Located near the Colonnade Street in Petra, Jordan, are the North Ridge Tombs—chamber tombs that are located underground below the Ridge Church (Figure 3.4). Excavated by the North Ridge Project beginning in 1994, these tombs were discovered during excavation in 1998. To reach the tombs, one must go down a vertical shaft, where the chambers widen underneath.[176] Inside North Ridge Tomb 1 the skeletal remains of four individuals were identified (Table 3.4): two 20 years and older, one between three and 12 years, and one between zero and three years.[177] These remains were comingled together, very fragmentary and believed to have been the result of ancient disturbance.

[175] Patricia Maynor Bikai and Megan A. Perry, "Petra North Ridge Tombs 1 and 2: Preliminary Report." *Bulletin of the American Schools of Oriental Research* 324 (2001): 59–78.

[176] Bikai and Perry, "Petra North Ridge Tombs," 59.

[177] Ibid., 59.

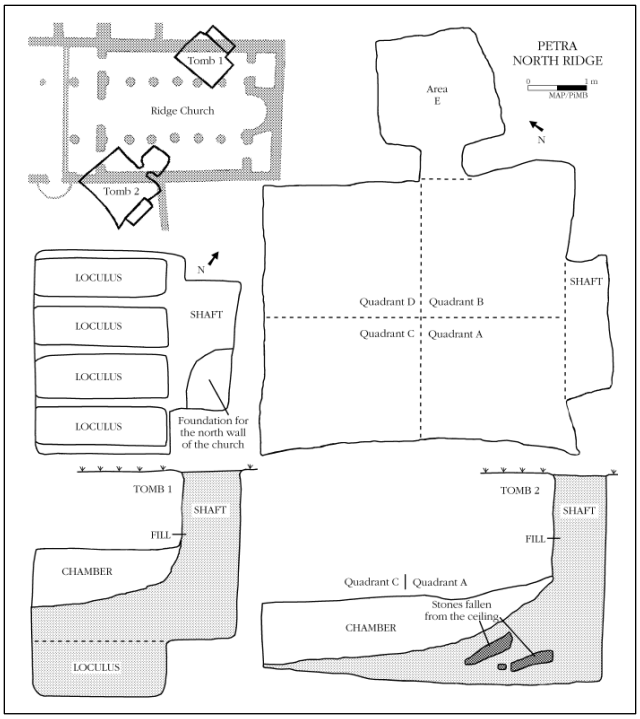

Figure 3.4. Location and sections of North Ridge Tombs 1 and 2. Image: Bakai and Perry, "Petra North Ridge Tombs," 61.

Table 3.4. Age ranges of skeletal remains from North Ridge Tomb 1.

	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
Burial 1	1	-	-	-	1
Burial 2	-	1	-	-	1
Burial 3	-	-	-	1	1
Burial 4	-	-	-	1	1
Totals	1	1	0	2	4

A shaft tunnel leads into the chamber that is referred to as North Ridge Tomb 2. Connected on the north side of the chamber is a small room that was not completed. Bakai and Perry believe that the unfinished state of the smaller room makes it "clear that the laborers never completed the construction of the tomb."[178] Eight intact burial receptacles were found under the

[178] Ibid., 324.

floor of the main chamber. Ten of the individuals buried were identified as primary burials and 18 were found comingled together in a burial spot (Table 3.5 and Table 3.6).

Table 3.5 Age ranges of skeletal remains from North Ridge Tomb 2.

	1 mo. after birth	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
Burial 1	-	-	-	-	1	1
Burial 2	-	-	-	-	1	1
Burial 3	-	-	-	-	-	-
Burial 4	-	-	-	-	1	1
Burial 5	-	-	-	-	1	1
Burial 6	-	-	-	-	1	1
Burial 7	-	-	-	-	-	-
Burial 8	-	-	-	-	1	1
Burial 9	-	1	-	-	-	1
Burial 10	1	-	-	-	-	1
Commingled Burials	-	4	2	-	12	18
Totals	1	5	2	0	18	26

Table 3.6. Age ranges of skeletal remains from North Ridge Tombs 1 and 2, Petra

	1 mo. after birth	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
Tomb 1	-	1	1	-	2	4
Tomb 2	1	5	2	-	18	26
Total	1	6	3	0	20	30

Renaissance Tomb, Petra, Jordan[179]

Located in Wadi Farasa, the Renaissance Tomb is one of the most famous monumental tombs in Petra. While cleaning the tomb in 2003, the International Wadi Farasa Project (IWFP), led by Stephen Schmid, discovered several rock-cut floor graves. From the pottery recovered

[179] Schmid, "Nabataean Funerary Complexes," 2008.

from the graves, the burials are dated to the last quarter of the first century CE.[180] All the graves had been disturbed and looted, probably during the medieval period, as indicated by the finds of medieval pottery, which did not extend past the covering slabs. Most of the cover slabs were still *in situ*.

Located in the floor are 14 *loculi*, with a total of 23 individuals identified from human bone fragments (Figure 3.5). Eighteen of those individuals are identified as over the age of 20 years, one was between 12 and 20 years, and four were between three and 12 years (Table 3.7).[181] *Loculi* 2 and 8 contained primary burials of individuals aged between three and 12 years (Appendix II). Schmid concludes that the percentage these individuals buried in the tomb is lower than the child mortality rate in antiquity of 40-50 percent. He notes that there was a "total absence of small children under age 6 years. Could this be an indication that they received different funerary treatment?" [182] Schmid's question is one of the observations that prompted my study in this thesis.

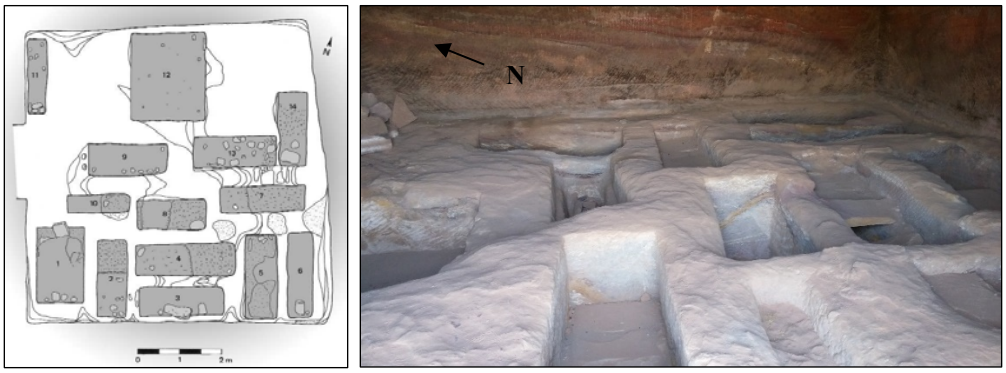

Figure 3.5. Renaissance Tomb, layout of rock-cut graves in interior. Right drawing from Schmid 2008:146. Left Image: Courtney Ewert 2016.

[180] Ibid., 129.

[181] Ibid., 129.

[182] Ibid., 139.

Table 3.7. Age ranges of skeletal remains from Renaissance Tomb.

	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
L1	-	-	3	3
L2	1	-	-	-
L4	-	-	1	1
L5	-	-	2	2
L7	-	-	1	1
L8	1	-	-	1
L9	-	-	1	1
L10	-	-	1	1
L12	2	1	7	10
L13	-	-	2	2
L14	-	-	1	1
Total	4	1	19	23

Khirbet edh-Dharih, Jordan[183]

Located southeast of the Dead Sea in modern Jordan is the village of Khirbet edh-Dharih. Anciently, this site was composed of a small village, a Nabataean temple, several non-monumental tombs and monumental tombs. Patrice Lenoble et al. excavated and published a detailed report on two of the monumental tombs (C1 and C2) from the site in 2001. Tombs C1 and C2 were dated between the second to fourth centuries CE. Perry, who helped with the osteological analysis, hypothesized that the monumental tombs were associated with an elite family that oversaw the temple at Khirbet edh-Dharih.[184] Both tombs are located in the southern cemetery, east of the Nabataean temple (Figure 3.6). Tomb C1 consisted of six shaft graves that contain multiple burials separated by slab stones.[185] Sixty-eight individuals were found in the

[183] Lenoble, et al., "Fouilles de Khirbet edh-Dharih," 89–151; and Perry et al., "Mobility and Exile," 2008.

[184] Perry et al., "Mobility and Exile," 529.

[185] Lenoble et al., "Fouilles de Khirbet edh-Dharih," 102.

graves (Table 3.8). From that total, only seven were of aged zero to three years, and 18 were aged between three and 12 years.[186]

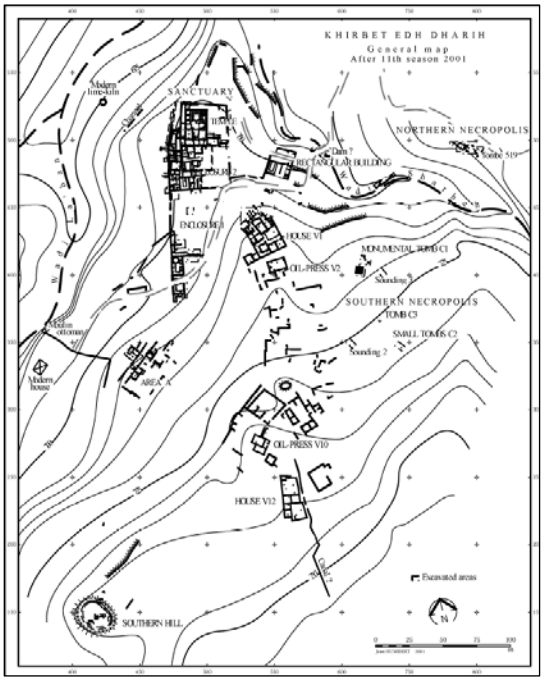

Figure 3.6. Site map of Khirbet edh-Dharih. Image: Perry et al., "Mobility and Exile," 531.

Tomb C2 consists of eight cist graves containing 15 individuals. No individuals under the age of three years were found in the graves, but the remains of seven individuals aged three to 12 years were excavated (Table 3.9).[187] Both tombs contained burials where the individuals interred "were wrapped in large sheets of goat leather for burial."[188] Other burials found in non-monumental tombs were also found wrapped in leather, as discussed in other site summaries below. Some of the graves in C2 were marked with an epigraphic funerary stela.

[186] Ibid., 102.

[187] Ibid., 102.

[188] Perry, et al., "Mobility and Exile," 533.

Table 3.8. Age ranges of skeletal remains from Monumental Tomb C1, Khirbet edh-Dharih

Burial #	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
Loculus I 1-2	2	4	-	3	9
Loculus I-3	-	1	-	1	2
Loculus I-4	-	-	1	-	1
Loculus I-5	2	1	1	3	7
Loculus I: A	-	3	-	1	4
Loculus II-1	1	-	-	4	5
Loculus II-2	-	-	-	1	1
Loculus II-3	-	-	-	1	1
C1: II-4	-	-	-	1	1
C1: II-5	-	-	-	1	1
Loculus III	-	2	-	1	3
Western Paving	1	2	-	1	4
C1: paving	1	1	2	4	8
Loculus IV-1	-	1	-	1	2
Loculus IV-2	-	1	-	1	2
Loculus IV-3	-	1	1	1	3
Loculus IV-4	-	-	-	1	1
C1: IV-5	-	-	-	1	1
Loculus V-1	-	-	-	1	1
Loculus V-3	-	-	-	1	1
C1: V-4	-	-	-	1	1
C1: V-5	-	-	-	1	1
Loculus VI-2	-	-	-	2	2
Loculus VI-3	-	-	-	1	1
Loculus VI-4	-	-	-	1	1
C1: VI-5	-	1	1	2	4
Total	7	18	6	37	68

Table 3.9. Age ranges of skeletal remains from Monumental Tomb C2, Khirbet edh-Dharih

Burial #	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
Tomb A	-	-	-	1	1
Tomb C	-	-	1	2	3
Tomb D	-	1	-	1	2
Tomb E	-	-	-	1	1
Tomb F	-	5	-	1	6
Tomb G	-	1	-	-	1
Tomb H	-	-	-	1	1
Total	-	7	1	7	15

Cemetery at Queen Alia International Airport, Jordan[189]

In 1978, during construction at the Queen Alia International Airport, 22 km south of Amman, several non-monumental tombs were uncovered. The Department of Antiquities approved an archaeological team to investigate the site, and they ended up finding and excavating 173 non-monumental tombs. The cemetery dates to the Roman Imperial period (first century BCE to the third century CE). The graves are not formed in rows but in clusters, or "irregular series," and cover an area of 65 square meters.[190] Most of the graves are rectangular, oriented east-west, and were constructed to house a single, extended body.[191]

The authors observed that the rectangular graves of individuals aged three to 20 years were smaller, and constructed less precisely, than were the graves for individuals over the age of 20 years.[192] Some of the small graves are more oval shape than rectangle in shapes (Figure 3.7). Remains of 138 skeletal individuals were identified (Table 3.10). Only one individual that did not reach birth was found, one individual that likely died during or right after birth, and one

[189] Ibrahim and Gordon, *A Cemetery at Queen Alia,* 1987.

[190] Ibid., 15.

[191] Ibid., 15.

[192] Ibid., 17.

individual aged zero to three years were recovered. Twenty-six individuals aged three to 12 years remains were found; one was buried with a figurine which is unusual because no figurines were found with burials containing individuals aged 20 years and older (Figure 3.7).[193]

Figure 3.7. Grave 104 – containing a primary burial of an individual aged three to 12 years with a figurine. Image: Ibrahim and Gordon, *A Cemetery at Queen Alia,* Plate XXV-1.

Table 3.10. Age ranges and corresponding remains from QAIA.

Age Range	Number
Before birth	1
1 mo. after birth	1
0-3 yrs.	1
3-12 yrs.	26
12-20 yrs.	11
20+ yrs.	98
Total	138

[193] Ibid., 17.

Grave goods consisted of mostly clothing and personal jewelry. Leather remains were found in many graves, which might indicate that these bodies were wrapped in leather shrouds before burial. Also, the most common types of grave goods were leather sandals and beads, and some of the skeletal remains were found with leather sandals still on their feet.[194] These burial practices are very similar to those seen for burials at Khirbet edh-Dharih and Khirbet Qazone.[195]

Wadi al-Mudayfiat and Wadi Abu Khasharif, Jordan[196]

During 2005 and 2006 the Department of Antiquities excavated five non-monumental pit graves from Wadi al-Mudayfiat and Wadi Abu Khasharif in southern Jordan (Figure 3.8.). Four of the excavated graves (MD A1, MD A2, MD B1, and MD C1) are located at Wadi al-Mudayfiat.[197] The fifth grave (WAK A1) is located at Wadi Abu Khasharif. Two of the burials (MD B1 and MD C 1) were dated using C14 dating, and the dates ranged from the second to fourth century CE.[198] Excavation of four of the graves revealed four primary burials (Table 3.11). Since the burials are not connected to a settlement, Perry et al. speculate that the people buried were nomads.

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[194] Ibid., 17.

[195] Konstantinos D. Politis, "Rescue Excavations in the Nabataean Cemetery at Khirbat Qazone 1996-1997." *Annual of the Department of Antiquities of Jordan* 42 (1998): 611–614.

[196] Zwyad Al-Salameen, and Hani Falahat, "Burials from Wadi Mudayafa'at and Wadi Abu Khasharif, Southern Jordan – Results of a Survey and Salvage Excavations." *Mediterranean Archaeology and Archaeometry* 9.2 (2009): 85–108; and Megan A. Perry, Abdel Halim al-Shiyab, and Hani Falahat, "The 2006 Wadi Abu Khasharif and Wadi Al-Mudayfi'at Cemetery Excavations." *Annual of the Department of Antiquities* 51 (2007): 303–312.

[197] Perry et al., "The 2006 Wadi Abu Khasharif," 303.

[198] Ibid., 303.

Four of the burials had grave goods of leather and textile fragments. It is believed that the leather came from a burial shroud wrapped around the deceased.[199] The other types of grave goods were an assortment of personal jewelry. The excavators state that these graves, and their associated burial practices, closely parallel those found by burials at Khirbat Qazone and Khirbat edh-Dharih.[200]

Figure 3.8. Location of Wadi al-Mudayfiat burials. Image: al-Salameen and Falahat, "Burials from Wadi Mudayafa'at," 90.

Table 3.11. Age ranges of skeletal remains from Wadi Mudayfiat and Wadi Abu Khasharif.

Burial #	7 mos. in utero	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
MD A2	-	-	1	-	-	1
MD B1	-	-	-	-	1	1
MD C1	-	-	-	-	1	1
WAK A1	-	-	-	1	-	1
Total	0	0	1	1	2	4

[199] Ibid., 305.

[200] Ibid., 310.

Umm el-Jimal, Jordan[201]

The Umm el-Jimal non-monumental tombs are located in the northern part of modern Jordan. Excavations began in 1993 and revealed three main cemeteries with non-monumental tombs, designated as Z, AA, and CC (Figure 3.9). The burials range in date from early Roman to early Byzantine eras. While there are disagreements about whether the population buried here was Nabataean, it is clear that this population was at least under the influence of the Nabataeans.[202] The individuals buried here might represent North Arabian tribal groups who mixed with Nabataean population. Also, these burials and their evident burial practices parallel those seen at Wadi al-Mudayfiat and Wadi Abu Khasharif, Khirbet edh-Dharih, and QAIA. Therefore, the cemeteries at Umm el-Jimal are included in this thesis.

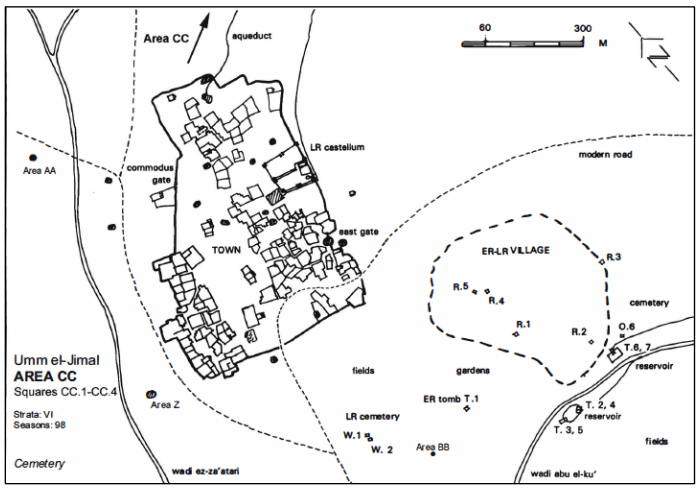

Figure 3.9. Areas Z, AA, and CC in Umm el-Jimal. Image: Cheyney et al., "Umm al-Jimal Cemeteries Z, AA, BB and CC," 346.

[201] Cheyney et al., "Umm al-Jimal Cemeteries Z, AA, BB and CC," 2009.

[202] Umm el-Jimal Project. "2007-2016 History." http://www.ummeljimal.org/en/history.html.

Area Z was the first area excavated in 1993. Skeletal remains of nine individuals were recovered from this area, which included burials of one individual aged zero to three years and two individuals aged three to 12 years (Table 3.12)[203]. In 1998, area AA was excavated. In this area four individuals under the age of 12 years were found among 19 individuals.[204] Grave goods found in one burial of an individual aged seven months in utero (AA.20:019) included a copper bracelet, a bead, and a pendant. Cheyney et al. observed that there appeared to be a mortuary pattern of "preferred treatment of subadult individuals and their tendency to be buried with status goods."[205]

Table 3.12. Age ranges of skeletal remains from Umm el-Jimal, Jordan.

Burial Areas	7 mos. in utero	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
Area Z	-	1	2	2	4	9
Area AA	1	1	2	2	13	19
Area CC	-	1	-	2	5	8
Total	1	3	4	6	22	36

Lastly, in 1988, Area CC was excavated. The most intriguing find from this area was the burial of an individual aged zero to three years with associated skeletal remains of a horse (Figures 3.10).[206] This individual's head was found resting on the forelegs of the horse, but small deliberately placed stones surrounded the individual's skull, defining space between the horse and the individual. Cheyney et al. believe that the "full articulation of the horse's forelimbs suggests that the baby and horse were buried at, or close to, the same time – before substantial

[203] Cheney et a., "Umm al-Jimal Cemeteries Z, AA, BB and CC," 338.

[204] Ibid., 330.

[205] Ibid., 338.

[206] Ibid., 348.

decay of soft tissue had occurred in the horse."[207] If the horse and infant were buried at the same time, the inclusion of a horse in the grave could be an example of ascribed status afforded to children at Umm el-Jimal.[208] Tombs at Umm el-Jimal were crafted to be reused for multiple interments, with individual burials were stacked on top of each other.

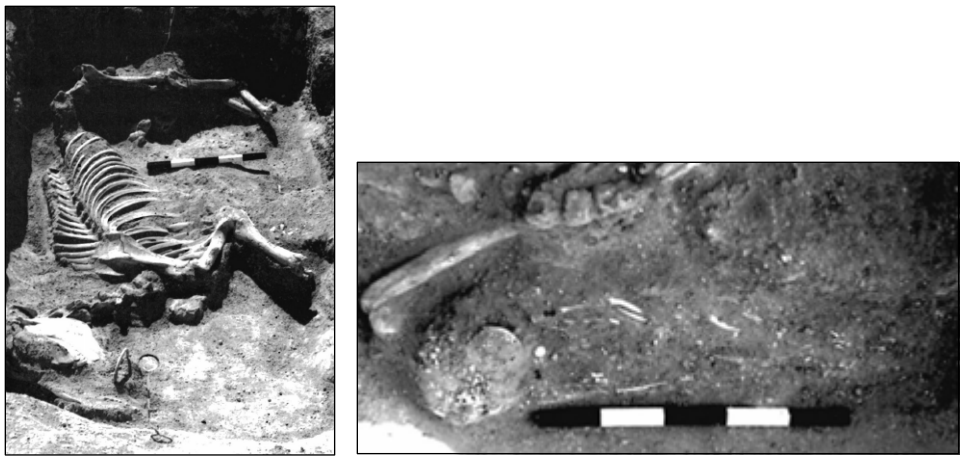

Figure 3.10. Burial CC.2:025 resting against forelegs of a horse. Image: Cheyney et al., "Umm al-Jimal Cemeteries Z, AA, BB and CC," 348.

Hegra, Saudi Arabia[209]

In 2008, a French and Saudi Arabian archaeological team began a project at ancient Hegra (called Mada'in Salih by locals) in Saudi Arabia.[210] Anciently, Hegra was an outlying city of the Nabataean kingdom, and it features Nabataean monumental rock-cut tombs. One of the main foci of the project was to excavate and map the inside of the numerous Nabataean monumental tombs located at Hegra. The tombs are numbered with the preface of "IGN,"

[207] Ibid., 349.

[208] Ibid., 354.

[209] Delhopital and Sachet 2008; 2009; 2011; Delhopital 2014.

[210] Delhopital and Sachet, "Area 5: Excavations in the Monumental Tombs," 2008.

meaning Institut Geographique National. Preliminary reports have been written about tombs IGN 20, 117, 103, and 88.[211] Because of the preliminary nature of these reports, data from them are selectively used in my quantitative analysis here, and I note when they are not included. Listed in Table 3.13 are the numbers of individuals recovered in the excavation of four monumental tombs.

Table 3.13. Age range of skeletal remains from Hegra, Saudi Arabia.

Site	Before birth	7 mos. in utero	1 mo. after birth	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
IGN 20	-	2	-	4	1	1	22	30
IGN 117	1	4	3	6	7	5	43	69
IGN 103	-	-	-	4	-	1	14	19
IGN 88	-	3	-	4	2	3	20	32
Total	0	9	3	18	10	10	99	150

IGN 20, Hegra, Saudi Arabia[212]

IGN 20 is a monumental tomb cut into the massif of Qasr al-Bint with an associated banqueting installation next to the tomb. The tomb belonged to a regional governor, a *strategos*, as is noted by the engraved funerary inscription above the tomb entrance.[213] The inscription also mentions the Nabataean King Malichos (King Malichos II) who ruled from 40-70 CE.[214] The interior of the tomb is 8 x 8 meters' square, with three large *loculi* in the back wall and eight floor graves (Figure 3.11).[215] Only the floor graves were excavated since the *loculi* were empty.

[211] Delhopital and Sachet 2008; 2009; 2011; Delhopital 2014.

[212] Delhopital and Sachet, "Area 5: Excavations in the Monumental Tombs," 2008.

[213] Ibid., 210.

[214] Ibid., 168.

[215] Ibid., 211.

Within the eight floor graves remains of 30 individuals were recovered.[216] Among these individuals were seven individuals under the age of 12 years. Utilizing mortality profiles constructed by S. Ledermann in 1969 for pre-vaccinated mortality rates, Delhopital and Sachet concluded that infants were under-represented in the tomb.[217]

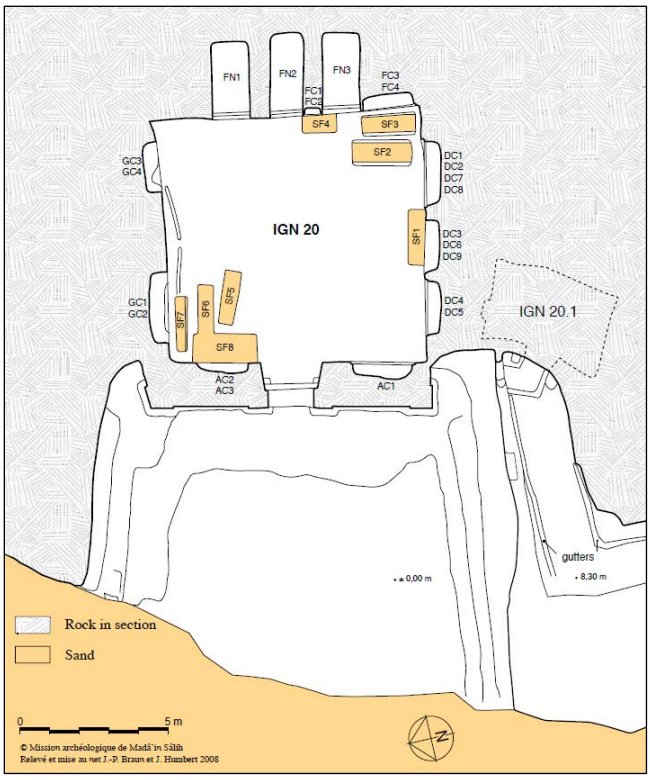

Figure 3.11. Interior of IGN 20. Image: Delhopital and Sachet, "Area 5," 241.

An almost intact primary burial of a woman, aged 20-30, was wrapped in leather and red cloth with patterns similar to Coptic designs.[218] The grave goods from this tomb indicate that the

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[216] Ibid., 214.

[217] Ibid., 214.

[218] Ibid, 168.

people buried here were probably wealthy since some of the objects included with them were imported, such as the boxwood combs and some of the glass objects.[219]

IGN 117, Hegra, Saudi Arabia[220]

Monumental tomb IGN 117 is cut into the eastern side of Jabal al-Ahma at Hegra. Inscribed above this tomb is an inscription that demonstrates the codified laws relating to Nabataean tombs existed. Also, this inscription exhibits how Nabataean women could own property and regulate the use of that property. The inscription states:

> This is the tomb which Hinat daughter of Wahbu made for herself and for her children and her descendants forever. And no-one has the right to sell it or give it in pledge or write for this tomb a lease. And whoever does other than this, his share will revert to his legitimate heir. In the twenty-first year of King Maliku, King of the Nabataeans.[221]

The interior chamber measures 4.5 x 5.0 meters and has numerous floor graves. The graves were excavated in four sections, Area A, B, C, and D (Figure 3.12).

[219] Ibid, 169.

[220] Delhopital and Sachet "Monumental Tombs, Area 5," 2009.

[221] Ibid., 169.

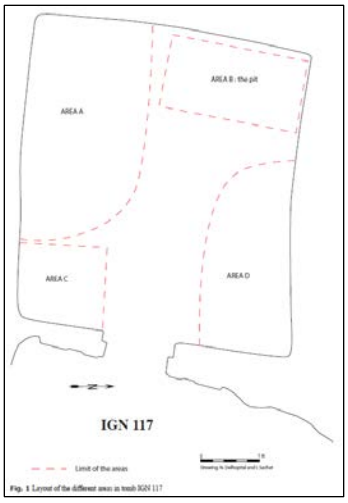

Figure 3.12. Areas A, B, C, and D or IGN 117. Image: Delhopital and Sachet, "Monumental Tombs (2009)," 197.

Materials excavated in Area A, such as skeletal remains and objects of leather, textile, and wood, were in good condition.[222] Two intact wooden coffins were found in Area A. In one of the coffins, four individuals were interred, one aged over 20 years and three subadults.[223] Area B was a large pit grave filled with bones, which Delhopital and Sachet believed was as an ossuary that older burials were pushed into to make room for new burials.[224]

In 2009, before completion of excavation, Delhopital and Sachet again used S. Ledermann's mortality profiles to compare with their cemetery population. Within their dataset Delhopital and Sachet discovered that children between the ages of zero and five were under-represented given the expected mortality rate, while children between the ages of five and nineteen were over-represented given the average mortality rate for pre-vaccinated IMR.[225] They hypothesize that this under-representation is due to different burial practices.

[222] Ibid., 179.

[223] Ibid., 179.

[224] Ibid., 179.

[225] Ibid., 177.

Little pottery was found inside the floor graves, but a concentration of pottery was found near the entrance. Delhopital and Sachet hypothesize that the pottery might indicate a funerary practice of the living depositing offerings for the dead at the entrance, which would explain why grave goods in the burials consisted of only personal clothing and accessories.[226]

IGN 103, Hegra, Saudi Arabia[227]

Tomb IGN 103 is carved into rock but is not adorned with a façade. Inside the tomb is an interior, square chamber with six floor graves: SF1, SF2, SF3, SF5, SF8, and SF9 (Figure 3.13). Floor graves SF8 and 9 are smaller in size and are believed to have been carved for subadults.[228] SF9 contained fragmented skeletal remains of individuals aged between 12 and 20 years.[229] Of the skeletal remains of the 19 individuals identified, four were aged between zero and three years.

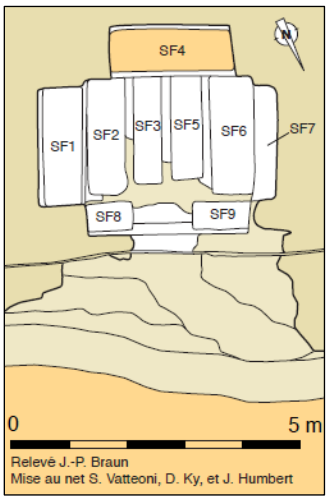

Figure 3.13. Interior of Tomb IGN 103, outlining floor graves. Image: Delhopital, "Archaeological Fieldwork," 153.

[226] Ibid., 185.

[227] Delhopital, "Archeological Fieldwork," 2014

[228] Ibid., 142.

[229] Ibid., 142

IGN 88, Hegra (Mada'in Salih), Saudi Arabia[230]

IGN 88 is a small monumental tomb carved into Jabal al-Khraymat, and has a simple tomb façade. Using mortality profiles constructed by S. Ledermann, the mortality rate for child deaths in the tomb align with the average rate. From this analysis, the excavators speculate that age was not a factor in burial selection.[231] Age identity was a factor in the other three tombs excavated. This is the first report on a Nabatean burial site I know of that does not suggest age as a determining factor for burial treatment. Grave goods consisted of textile and leather fragments like those found in IGN 117.

Summary

My analysis of burials is based on the skeletal remains of 544 individuals, mostly fragmented, identified from the 14 Nabataean burial sites just described (Table 3.14). Of the 14 Nabataean burial sites, nine are monumental tombs and five are non-monumental tombs. Monumental tomb structures make up 66 percent of the burial structures of my sample: WM (Wadi Mataha) Site 15, WM Site 16, North Ridge Tombs, Renaissance Tomb, Khirbet edh-Dharih, and Hegra tombs IGN 20, 117, 103, and 88. Non-monumental tombs make up the other 34 percent: WM Site 4, WM Site 13, the Cemetery at Queen Alia International Airport (QAIA), Wadi al-Mudayfiat and Wadi Abu Khasharif (WMD and WAK), Umm el-Jimal. In following chapters I outline the different quantitative analyses that were performed using this dataset to determine whether Nabataean infants are absent or under-represented in Nabataean cemeteries.

[230] Delhopital, "Archeological Fieldwork," 2014.

[231] Ibid., 144.

Table 3.14. Age ranges of skeletal remains for 14 Nabataean sites.

Site	before birth	7 mos. in utero	1 mo. after birth	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
WM Site 4	-	-	-	-	2	2	3	7
WM Site 13	-	-	-	-	1	-	1	2
WM Site 15	-	-	-	-	2	1	7	10
WM Site 16	-	4	-	2	7	9	39	61
North Ridge Tombs	-	-	1	6	3	-	20	30
Renaissance Tomb	-	-	-	-	4	1	18	23
Khirbet edh-Dharih	-	-	-	7	25	7	44	83
QAIA	1	-	1	1	26	11	98	138
WMD and WAK	-	-	-	-	1	1	2	4
Umm el-Jimal	-	1	-	3	4	6	22	36
IGN 20, Hegra	-	2	-	4	1	1	22	30
IGN 117, Hegra	1	4	3	6	7	5	43	69
IGN 103, Hegra	-	-	-	4	-	1	14	19
IGN 88, Hegra	-	3	-	4	2	3	20	32
Total	2	14	5	37	85	48	353	544

4 | QUANTITATIVE ANALYSIS

This chapter summarizes the results of the quantitative analysis of mortuary remains from the fourteen Nabataean burial sites used for this study. First, this chapter describes observed burial patterns from analyses that incorporate all the Nabataean burial sites and all age ranges. Then observed burial patterns from analyses containing only adult burials are reviewed (deceased individuals over 20 years at the time of death). Following the discussion of Nabataean adult burials is a summary of mortuary patterns observed from analyses of Nabataean subadult burials (deceased individuals under 20 years at the time of death). Lastly, this chapter reviews the observed mortuary patterns from analyses of burials containing multiple individuals composed of adult and subadult skeletal remains.

Burials of All Age Categories

Age

In order to observe and identify general patterns of specific Nabataea subadult treatment after death, patterns in their burial treatments need to be compared with patterns in Nabataean adult burial treatments. From the fourteen Nabataean burial sites, 544 individuals were identified from the fragmented skeletal remains and assigned an age range at death (these are located in Appendix II; Figure 4.1). Of the 544 Nabataean individuals, 65 percent represent adults and 35 percent represent subadults. Table 4.1 contains the percentage breakdowns for subadult age ranges.

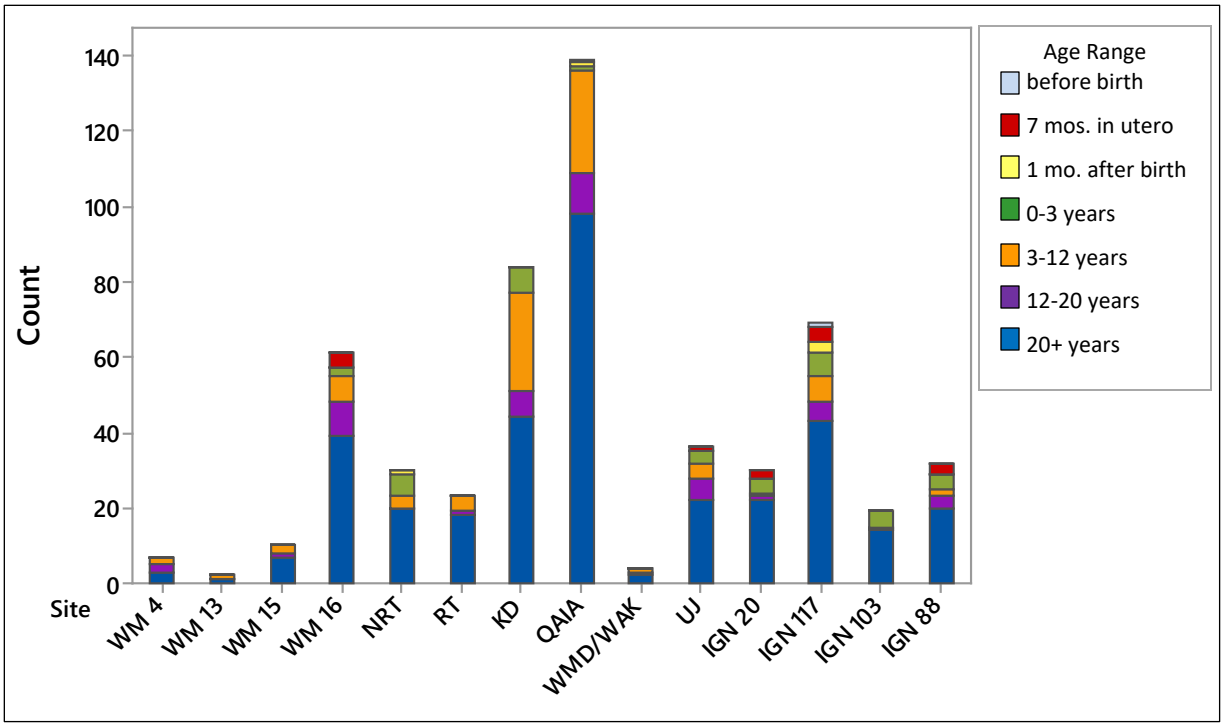

Figure 4.1. Count of Nabataean skeletal remains at each burial site according to age range.

Table 4.1. Percentages of age ranges at each burial site.

Site	before birth	7 mos. in utero	1 mo. after birth	0-3 yrs.	3-12 yrs.	12-20 yrs.	20+ yrs.	Total
WM 4	-	-	-	-	29	29	43	1
WM 13	-	-	-	-	50	-	50	0
WM 15	-	-	-	-	20	10	70	2
WM 16	-	7	-	3	11	15	64	11
NR	-	-	3	20	10	-	67	6
RT	-	-	-	-	17	4	78	4
KD	-	-	-	8	30	8	53	15
QAIA	1	-	1	1	19	8	71	25
WMD/WAK	-	-	-	-	25	25	50	1
UJ	-	3	-	8	11	17	61	7
IGN 20	-	7	-	13	3	3	73	6
IGN 117	1	6	4	9	10	7	62	13
IGN 103	-	-	-	21	-	5	74	3
IGN 88	-	9	-	13	6	9	63	6
Total	>1	3	1	7	16	9	65	100

Observations of general patterns among the fourteen Nabataean burials indicate that there are twice as many adult burials as there are subadult burials (64% adults, 36% subadults).

Eighteen percent of all the Nabataean individuals under the age of three years were buried by themselves or with other subadults; the remaining 82 percent were buried with adults (these numbers do not include individuals from Hegra sites due to the difficultly of determining individual versus communal burials composed of adults and subadults). Over 40 percent of the individuals aged three to 12 years were buried by themselves or with other individuals of this age group, whereas 32 percent of individuals aged 12 to 20 years were buried by themselves or together. Fifty-seven percent of adults were buried by themselves or with other adults. The percentages of individuals buried only with other individuals from their age group increases as biological age increases, demonstrating that it might have been a common Nabataean practice to bury subadults with adults, and more unusual to bury subadults by themselves.

Sex

The biological sex of only 151 out of the 544 individuals could be identified (Appendix II). Determination of the sex of individuals from skeletal remains is based on the assumption that male skeletal remains are larger and more robust than female remains, a determination made significantly easier if the individual examined had reached maturity.[232] Biological sex can also be determined through examination of the cranium (nuchal crest, mastoid process, supraorbital margin, supraorbital ridge, and mental eminence) and the sciatic notch in the pelvis.[233] For this study, deceased Nabataean individuals for whom a sex could not be determined are referred to as "indeterminate" (IND; Figure 4.2). According to the site reports, there are 90 Nabataean females and 61 Nabataean males represented in my sample.

[232] White, Black, Folkens, *Human Osteology,* 410.

[233] Ibid., 410, 417.

Burial Structures and Receptacles

For ease of observing general mortuary patterns Nabataean burial structures were divided into two broad groups: monumental tombs and non-monumental tombs. Among the 14 site reports considered for this study, six different terms were used by the authors to describe different kinds of burial receptacles utilized by the Nabataeans in their burial structures.

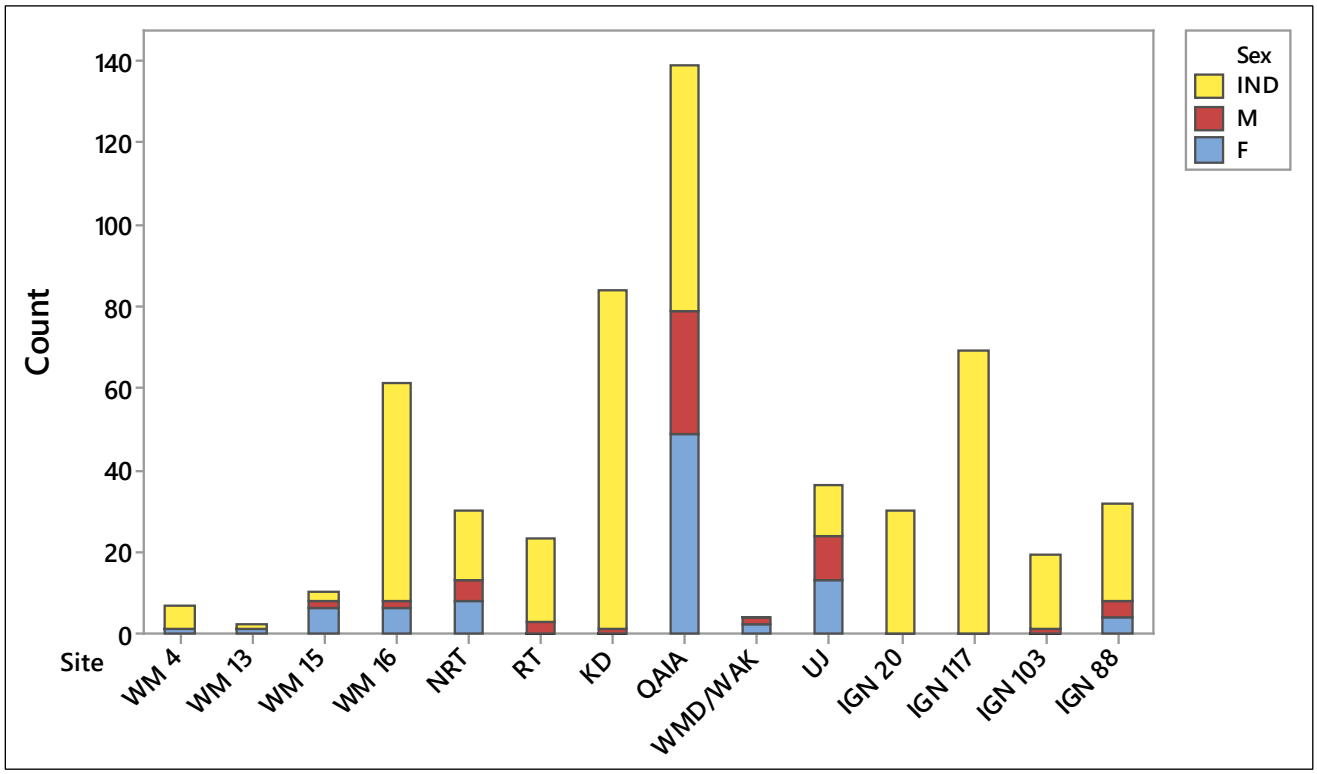

Figure 4.2. Count of Nabataean females (F), males (M), and indeterminate sex (IND) for each burial site.

For the following analysis of Nabataean burial structures and their associated burial receptacles the six different burial types are given numbers for sake of brevity and clarification:

Type I: Loculus, shaft, pit, or cist grave in a tomb structure. These terms each have specific definitions (refer to pages vii to ix) but, because the site reports often do not clarify the term used, Type I describes any burial receptacle that has been cut into the floor of a monumental tomb.

Type II: Coffin in a *loculus*, shaft, pit, or cist in a monumental tomb structure.
Type III: Pit, cist, or shaft grave exposed to the elements, otherwise known generally as non-monumental tombs.
Type IV: Coffin in a pit, cist, or shaft grave of a non-monumental tomb.
Type V: Cremated human remains in a pit, cist, or shaft grave of a non-monumental tomb.
Type VI: A pit, cist, or shaft grave of a non-monumental tomb with commingled skeletal remains. Described in several site reports as an ossuary.

Burial receptacles Types I-II are specific to monumental tomb burial structures, and Types III-VI are specific to non-monumental tomb burial structures.

As mentioned in Chapter 3, nine of the Nabataean burial sites were monumental tombs and the remaining five burial structures were non-monumental tombs (Figure 4.3). Sixty-six percent of the Nabataean human remains were found in monumental tomb structures. The remaining 34 percent of the Nabataean human remains were found in non-monumental tomb structures. It is difficult to determine whether these percentages simply reflect the bias of the sites chosen for this study, or whether they reflect a particular Nabataean mortuary pattern. Interpretations of these observations are discussed in the next chapter.

Ninety percent of Nabataean individuals buried in monumental tombs were interred in a Type I burial receptacle (Table 4.2). Eighty-eight percent of Nabatean individuals placed in non-monumental tombs were interred in a Type IV burial receptacle. Type IV burials are similar to Type I burials; both are shaft graves or *loculi* vertically cut into the bed-rock. This could represent an example of Hammond's theory that non-monumental *loculi* graves imitated wealthier loculi graves in monumental tombs, but that theory is difficult to evaluate with this dataset.[234] Differences between these burial types include the lack of elaborate mortuary iconography in Type IV burial receptacles, which are often found associated with Type I burial receptacles. For both burial structure types only 10 percent of Nabataean individuals were

[234] Hammond, *The Nabataeans,* 76.

interred in burial receptacles other than Types I and IV. This demonstrates the popularity of the *loculi*, or shaft graves, as the preferred burial receptacle of the Nabataeans. Individuals of both the lower and higher class preferred this mortuary practice.

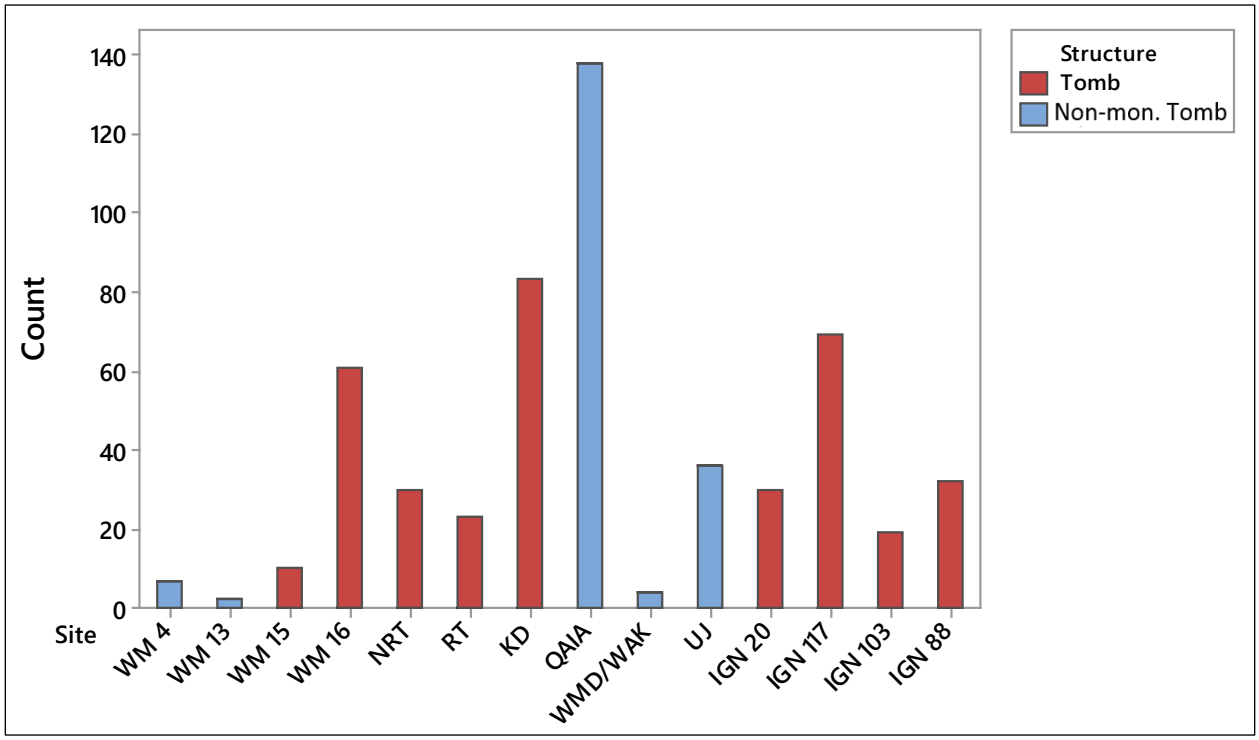

Figure 4.3 Count of Nabataean individuals buried according to burial structure type.

Table 4.2. Counts and total percentage of burial structures according to age ranges.

Age Range	Tomb		Non-monumental tombs				Total	
	I	II	IV	V	VII	VIII	Count	Percentage
before birth	1	-	1	-	-	-	2	0.3
7 mos. in utero	13	-	1	-	-	-	14	2.6
1 mo. after birth	3	1	1	-	-	-	5	0.9
0-3 yrs.	33	-	4	-	-	-	37	6.8
3-12 yrs.	51	-	32	2	-	-	85	15.6
12-20 yrs.	28	-	17	2	-	1	48	8.8
20+ yrs.	227	-	117	6	1	2	353	65
Total	356	1	173	10	1	3	544	100

Correlations in the relationship of burial structures and age illuminate other Nabataean mortuary patterns. For example, out of the 14 Nabataean individuals deceased before birth buried, 13 of them were interred in tomb structures. This frequency could indicate that monumental tombs preserve fragile bones better than non-monumental tombs, or possibly that the elite could afford to bury perinatals in their tombs or that they held a different mortuary belief that allowed perinatals to be buried with adults. Of the 37 Nabataean individuals aged zero to three years buried, 29 of them were found in tomb structures. Again, a mortuary pattern appears that demonstrates that for reasons unknown younger subadults were more likely to receive formal burial in monumental tombs than non-monumental tombs.

Grave Goods

All the grave goods from 352 graves (excluding Hegra Tombs where grave goods were not identified with a specific grave) were recorded and analyzed. For this study, the term "grave goods" encompass any artifact found within a burial receptacle dating to the Nabataean period. Table 4.3 lists 14 different categories of grave goods, their frequencies, and percentages. As apparent in this table, the majority of Nabataean graves lacked grave goods. Their absence could be explained, in part, by the number of graves looted anciently before excavation and in modern times (refer to Appendix II for specific grave goods and looting status). The majority of the grave goods accounted for came from non-monumental tombs, especially from the QAIA burials, many of which were not looted before excavation. Non-monumental tombs are often looted less than monumental tombs because most them are not visible above ground, and they require more work to identify individual graves.

The most common type of grave good found in the sample of Nabataean burials was jewelry, and these artifacts are believed to be personal jewelry worn by the interred individuals during their lives versus items that were specially made to be worn in death (Table 4.3).[235] Nabataean grave goods in this dataset are similar to grave goods found in Roman cemeteries.[236] Ceramic and leather grave goods were the second and third most common finds associated with Nabataean burials. Almost all the grave goods in my dataset appear to have been personal items and not ritualized objects for death, except perhaps for the leather shrouds that appear to have been created specifically for individuals.[237]

Table 4.3. Counts and percentages of grave good types.

Grave Good Type	Count	Percentage
None	77	21.88
Jewelry	73	20.74
Ceramics	44	12.50
Leather	39	11.08
Metal	29	8.24
Sandals	16	4.55
Wood	13	3.69
Shell	13	3.69
Glass	11	3.13
Textiles	11	3.13
Stone	10	2.84
Coins	7	1.99
Amulets	5	1.42
Faunal Bone	4	1.14

To determine which grave goods were more likely found together, a cluster analysis of the grave goods from 10 of the Nabataean sites was performed (Figure 4.3). The methods used to

[235] Ibrahim and Gordon, *A Cemetery at Queen Alia,* 23.

[236] Ibid., 23.

[237] Ibid., 23.

create this analysis are summarized earlier in this chapter under the heading "Methods." The first cluster (on the left and in blue in Figure 4.4) is mainly composed of materials that were found in looted monumental tomb graves, such as ceramic sherds, wood chips, and faunal bone. The second cluster (in the middle and green in Figure 4.4) is composed of personal items in the form of clothing and/or burial shrouds. The third cluster (on the right and in red in Figure 4.4) is composed mainly of personal items. It is unknown whether they were used in life or were only used in a mortuary context.

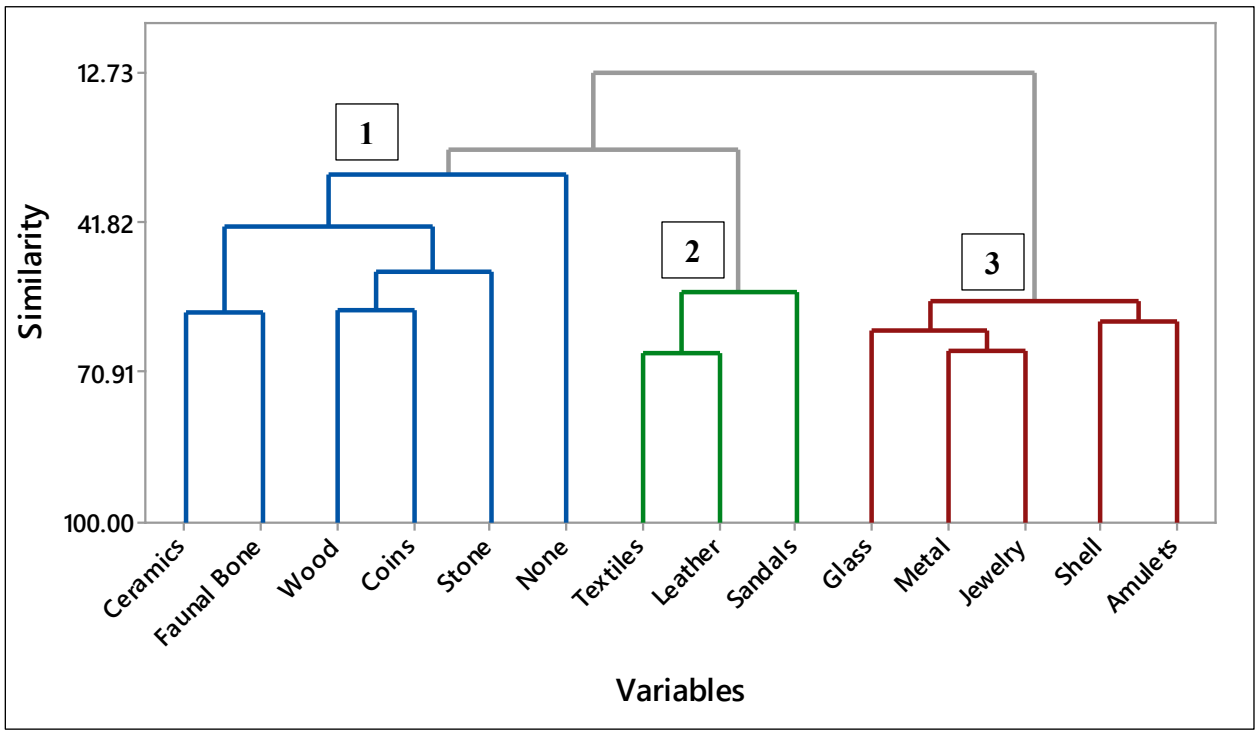

Figure 4.4. Cluster analysis of grave good types from all selected Nabatean burials.

Burials with Adult Skeletal Remains

Age

Among the 14 Nabataean burial sites, 353 individual Nabataean adults were identified. Most site reports did not provide specific ages or age ranges for the reported burials, but they identified their age category as adult, young, middle, and/or old adult. The table in Appendix III lists the 143 Nabatean adults that were buried by themselves or with other adults (from 10 of the Nabataean burial sites). This table does not include the 99 deceased adult individuals from the Hegra tombs because the reports do not list whether they were buried individually or with other subadults.[238] The remaining 111 Nabataean adults were found buried with Nabataean subadults (Appendix V).

Sex

For the Nabataean adults that were buried by themselves, 36 percent were identified as female, 27 percent were identified as male, and 37 percent could not be identified and are considered indeterminate (Table 4.4). None of the site reports clarified the procedures used to determine the sex of the individuals (e.g., cranial characteristics and/or sciatic notch), or why the sex of some could not be determined.

For Nabataean adults buried with other adults, 33 percent were identified as female, 20 percent were identified as male, and 47 percent were indeterminate (Table 4.5). There is no clear pattern relating to whether adults were buried by themselves or together based on biological sex.

[238] Delhopital and Sachet 2008; 2009; 2014.

Table 4.4. Biological sex and age of Nabataean adults buried individually.

	Female	Male	Indeterminate	Total
Young Adult	6	7	4	17
Middle Adult	18	14	3	35
Old Adult	5	3	2	10
Indeterminate	12	6	33	51
Total	41	30	42	113

Table 4.5. Sex and age of Nabataean adults buried together.

	Female	Male	Indeterminate	Total
Young Adult	5	2	5	12
Middle Adult	2	4	2	8
Old Adult	1	0	0	1
Indeterminate	2	0	7	9
Total	10	6	14	30

Burial Structures and Receptacles

Most deceased Nabataean adult individuals (66%) were interred in tomb burial structures (Figure 4.5). The remaining 34 percent were found in non-monumental tombs. Many single adult Nabataean burials were found in Type I and Type IV burial receptacles. Once again, Types I and IV are the most commonly used burial receptacle and most likely represent a normative burial practice for Nabataea adults. A small variety of burial receptacles used by Nabataean adults is represented by five Type V burial receptacles from the Umm el-Jimal site, and one Type VII burial receptacle.

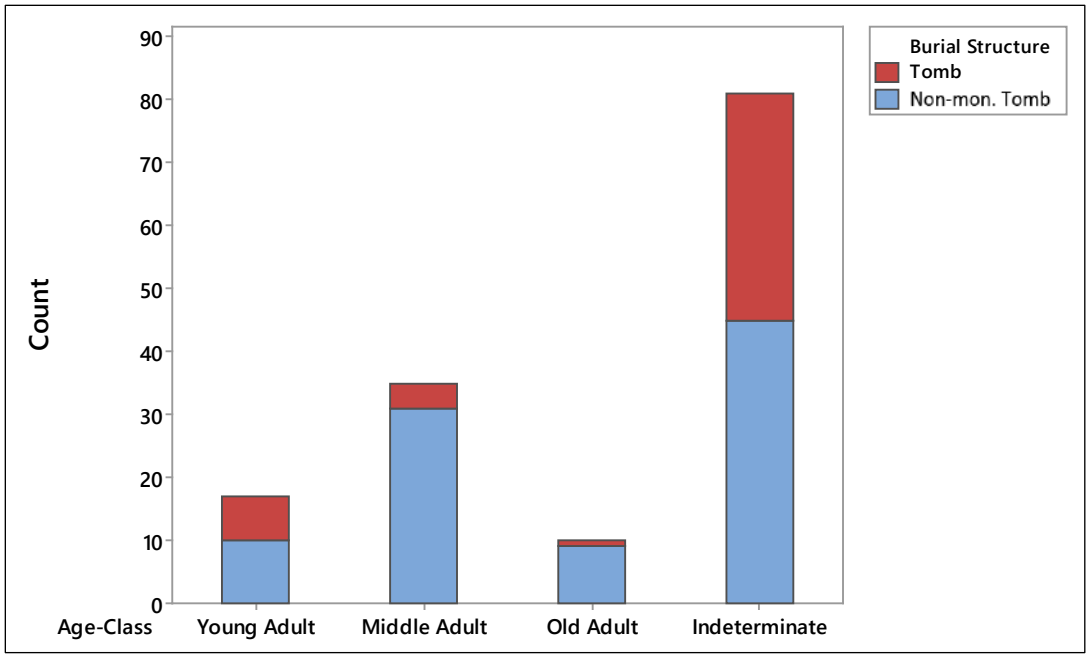

Figure 4.5. Burial structures according to age ranges for Nabataean adults.

Grave Goods

A cluster analysis was performed to determine the similarities of grave goods in Nabataean adult burials using the methods mentioned at the beginning of this chapter. I was able to group grave goods from the Nabataean adult burials into three clusters of similarity (Figure 4.6). Compared with the grave good clusters from all the Nabatean burial sites used in this study (Figure 4.3), grave goods from Nabataean adult burials have similar groupings (Figure 4.6). That the clusters of adult grave goods match the overall grave good clusters is not surprising since they make up 65 percent of individuals buried.

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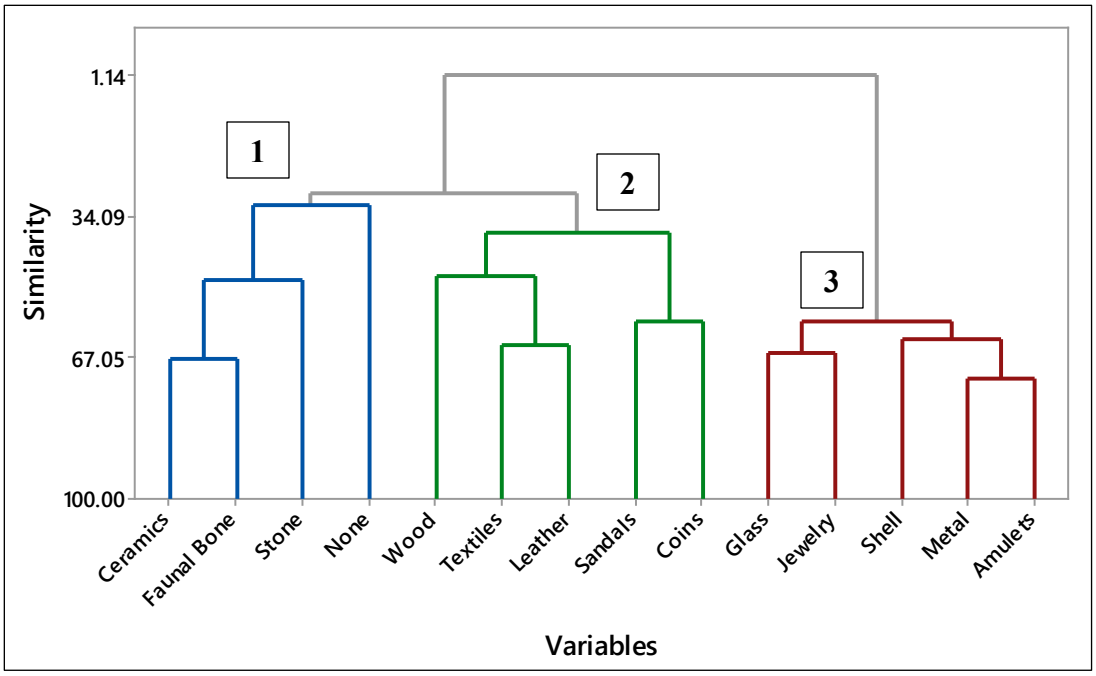

Figure 4.6. Cluster analysis of grave goods for Nabataean adult burials.

Burials with Subadult Skeletal Remains

Age

There are 46 Nabataean subadults that occupy a single burial receptacle and one group of individuals aged zero to three years interred in the same burial receptacle (refer to Appendix IV). Eight Nabataean burial sites have graves containing only Nabataean subadults: WM site 4, WM site 15, North Ridge Tomb 2, Renaissance Tomb, Khirbet Dharih, Queen Alia International Airport, WMD and WAK, and Umm el-Jimal. Hegra is excluded from this analysis because the reports do not list whether the subadults were buried individually or with other subadults or adults. The age range most represented in burials containing only subadults is between three to 12 years at 69 percent, with the age range between 12 and 20 years coming in second at 25 percent (Figure 4.7). Skeletal remains aged zero to three comprise less than six percent of subadults interred in their own burial receptacle.

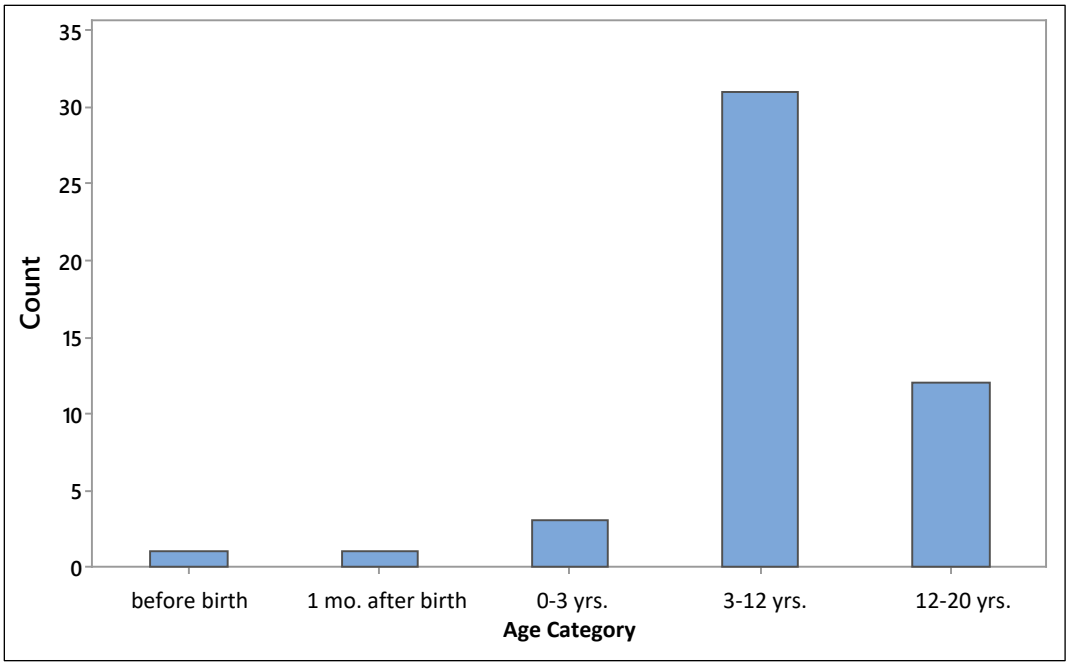

Figure 4.7. Count of Nabataean sub-adult burials according to age ranges.

Sex

Determining the biological sex of subadult skeletal remains is challenging if the individual had not yet reached puberty because one of the more secure ways to determine the biological sex of a skeleton is through the sciatic notch.[239] There are no identifying grave goods associated with specific genders reported from the sites for subadult burials. In addition, because of looting, grave goods are often missing. Of all the burials in my sample, only one aged between three and 12 years was identified as male (from site Wadi Al-Mudayfi'at; Table 4.6).[240] Five between the ages of 12 and 20 years were identified from their skeletal remains as female. Because of lack of information regarding the biological sex of Nabataean subadults nothing conclusive can be claimed for any relation between burial location and biological sex of the interred individuals.

[239] White, Black, Folkens, *Human Osteology*, 410.

[240] Perry et al., "The 2006 Wadi Abu Khasharif," 2007.

Table 4.6. Counts of Nabatean subadult biological sex.

	Female	Male	Indeterminate	Total
before birth	-	-	-	0
7 mos. in utero	-	-	1	1
1 mo. after birth	-	-	1	1
0-3 yrs.	-	-	3	3
3-12 yrs.	-	1	30	31
12-20 yrs.	5	-	7	12
Total	5	1	42	48

Burial Structures and Receptacles

Only seven subadults were found buried in tombs (Figure 4.8); the rest of the Nabataean subadult skeletal remains (41) were found in non-monumental tomb burial structures. Thirty-six of those subadults were found buried in a Type IV burial receptacle, two in a Type VI burial receptacle, and two in a Type V burial receptacle. The Type V burials contain the skeletal remains of two individuals aged three to 12 years from the Umm el-Jimal site (burial numbers Z.4b and Z.11; refer to Appendix IV). Comparatively, only five adults were found buried in coffins. No patterns were found that correlated age with burial in a coffin. It should be noted that 86 percent of Nabataean subadult-only burials are found in non-monumental tombs.

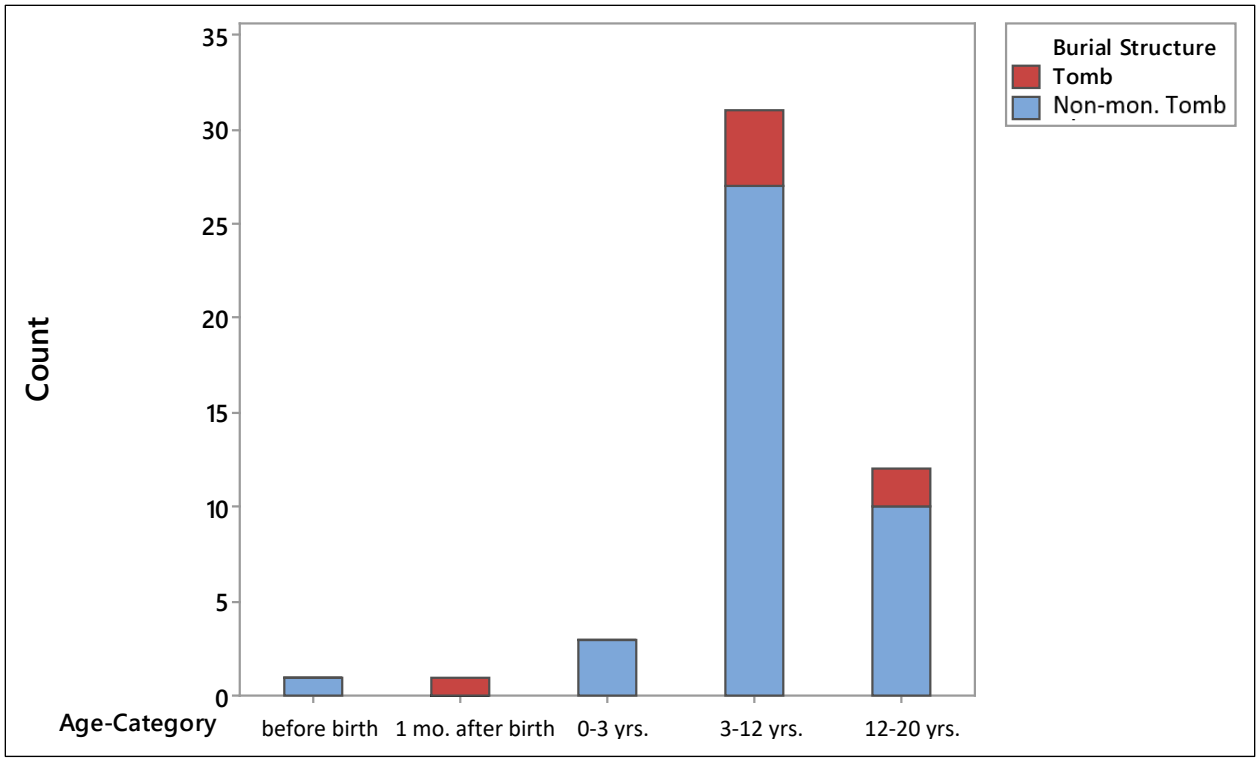

Figure 4.8. Nabataean subadult burials according to age ranges.

Grave Goods

From the 47 burial receptacles (48 individuals) containing subadults, 15 of them did not contain any associated grave goods (Figure 4.9). When this cluster is compared with the Nabataean adult burials (Figure 4.6), and all the Nabataean burials grave goods (Figure 4.3), these clusters demonstrate a slightly different pattern (Figure 4.9). The differences are slight, however. For Nabataean adults, ceramics and other non-precious materials were usually found together, while in the Nabataean subadult burials there was a greater variety in the first cluster of non-precious and precious materials found together. Jewelry was found in 23 of the Nabataean subadult burials, making it the most common grave good associated with subadult burials.

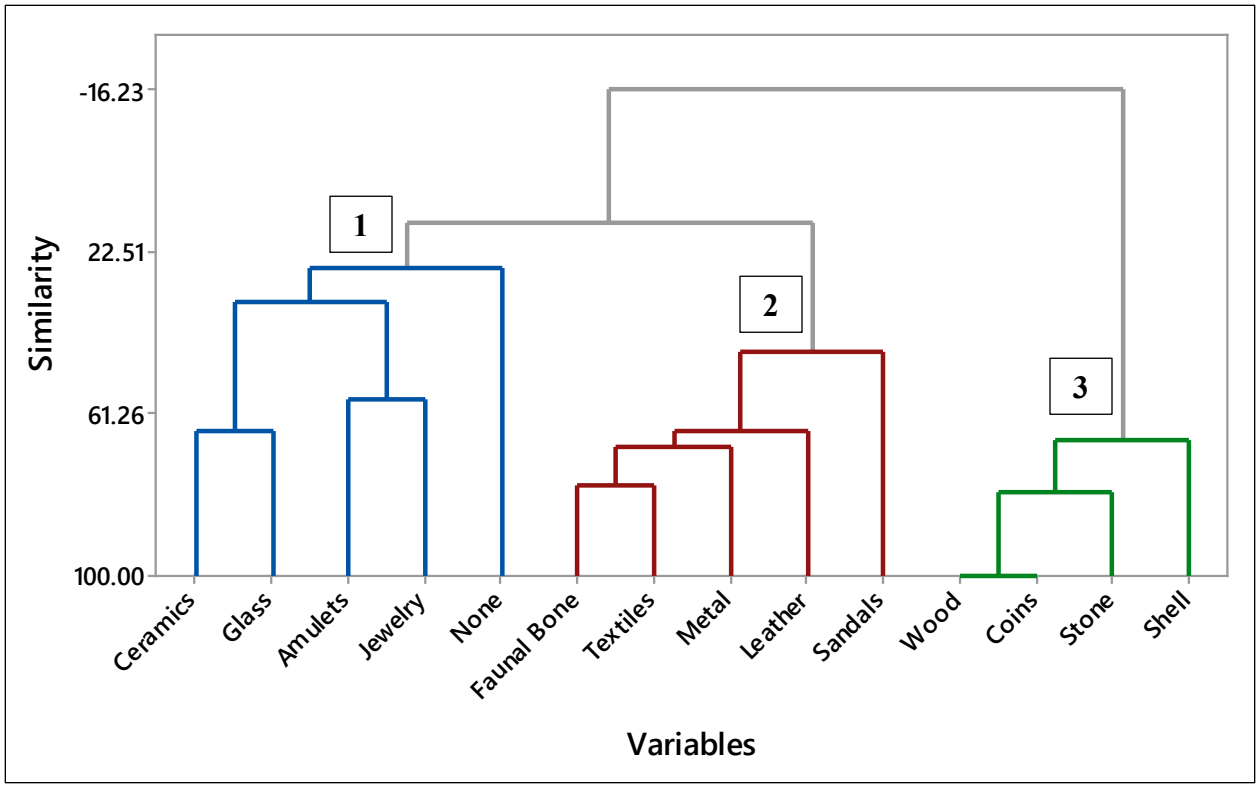

Figure 4.9. Cluster analysis of grave goods for Nabataean subadult burials.

Burials with Adult and Subadult Skeletal Remains

Age

There are 198 Nabataeans who were buried in the same grave that contained at least at one adult and one subadult (Appendix V). Burials from Hegra are not included in these analyses because they do not mention which individuals were found in the same burial receptacle.[241] Ten burials contain remains of only adults and individuals aged 12 to 20 years; the rest contain adults and individuals aged zero to 12 years (Table 4.7). Twenty-two of the 27 Nabataean individuals under the age of three years (not including young infants from Hegra) were found interred with adults. Forty-four of the 75 Nabatean individuals aged three to 12 years (not including individuals from Hegra) were found in the same burials with adults. These numbers illustrate

[241] Delhopital and Sachet 2008; 2009; 2014.

how the general mortuary pattern for Nabatean subadult burials was to have them buried with adults, rather than providing them with their own burial receptacles.

Table 4.7. Count of age categories buried with other individuals.

Age Category	Count
before birth	1
7 mos. in utero	4
1 mo. after birth	1
0-3 yrs.	16
3-12 yrs.	44
12-20 yrs.	25
20+ yrs.	107

Sex

As discussed above, biological sex could not be determined for all the adults, so this analysis is neither comprehensive nor representative of the population (Table 4.8). Yet the numbers are still reported here so that others might make their own inferences from the data. Thirty-Seven Nabataean subadults were buried with adults of indeterminate sex, and 19 Nabataean subadults were found interred in burials containing female, male, and indeterminate Nabataean adults. There are only five subadults that are known to have been buried with an adult female(s) (refer to Appendix V for burial numbers). Five Nabataean subadults were buried with a male. From the small amount of data presented here, there is no clear mortuary pattern of Nabataean subadults being buried with Nabatean adults of a particular sex.

Table 4.8. Sex of Nabataean adults buried with children by age range.

	before birth	7 mos. in utero	1 mo. after birth	0-3 yrs.	3-12 yrs.	12-20 yrs.	Total
Only Female	1	-	-	-	2	2	5
F and IND	-	3	-	-	1	4	8
Only Male	-	-	1	1	1	2	5
M and IND	-	-	-	-	-	-	-
F and M	-	1	-	2	3	5	11
F, M, and IND	-	1	-	5	8	5	19
IND	-	-	-	6	25	6	37
Total	1	5	1	14	40	24	85

Burial Structures and Receptacles

The majority of Nabataean subadult and adult burials (77%) are reported from monumental tomb structures. These burial groups have the greatest variety of age ranges that are buried together (Figures 4.10–4.13). The remaining 23 percent are buried in non-monumental tomb structures. Possible reasons for the majority of grouped individuals being buried in monumental tombs could be the mortuary practice of reusing burial receptacles.

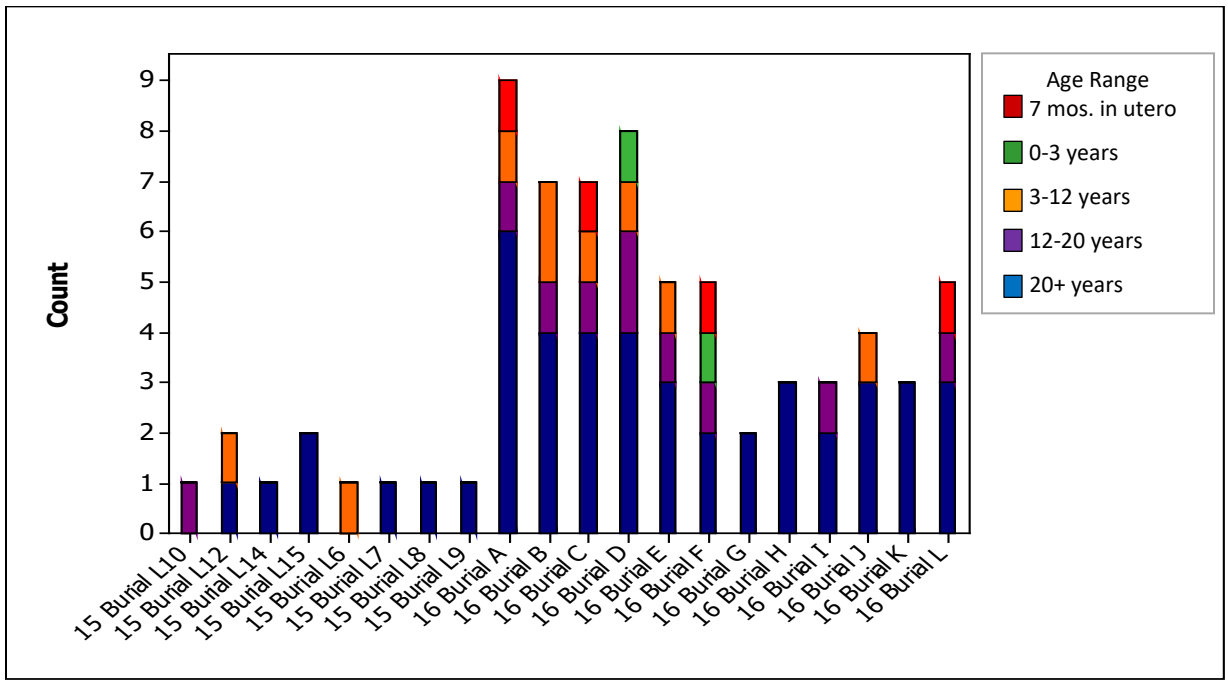

Figure 4.10. Counts of Nabataean individuals buried at Wadi Mataha Sites 15 and 16 by age range.

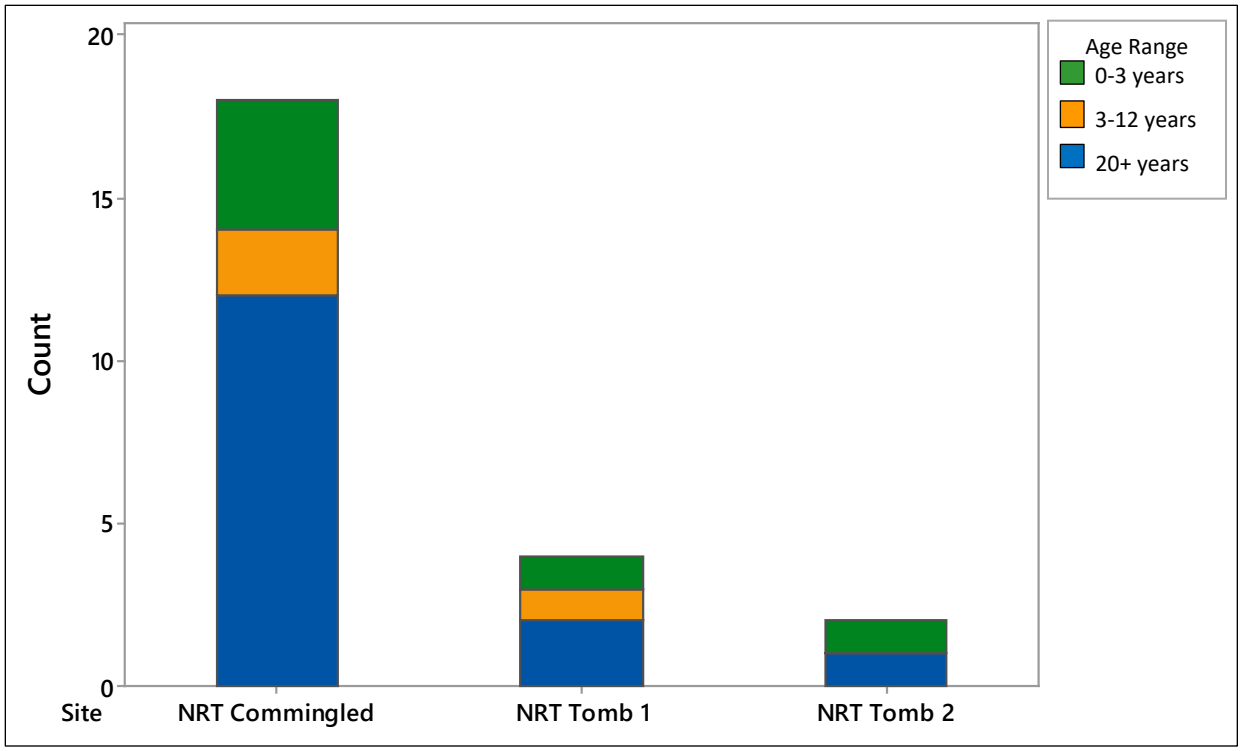

Figure 4.11. Counts of Nabataean individuals buried at the North Ridge Tombs 1 and 2 by age range.

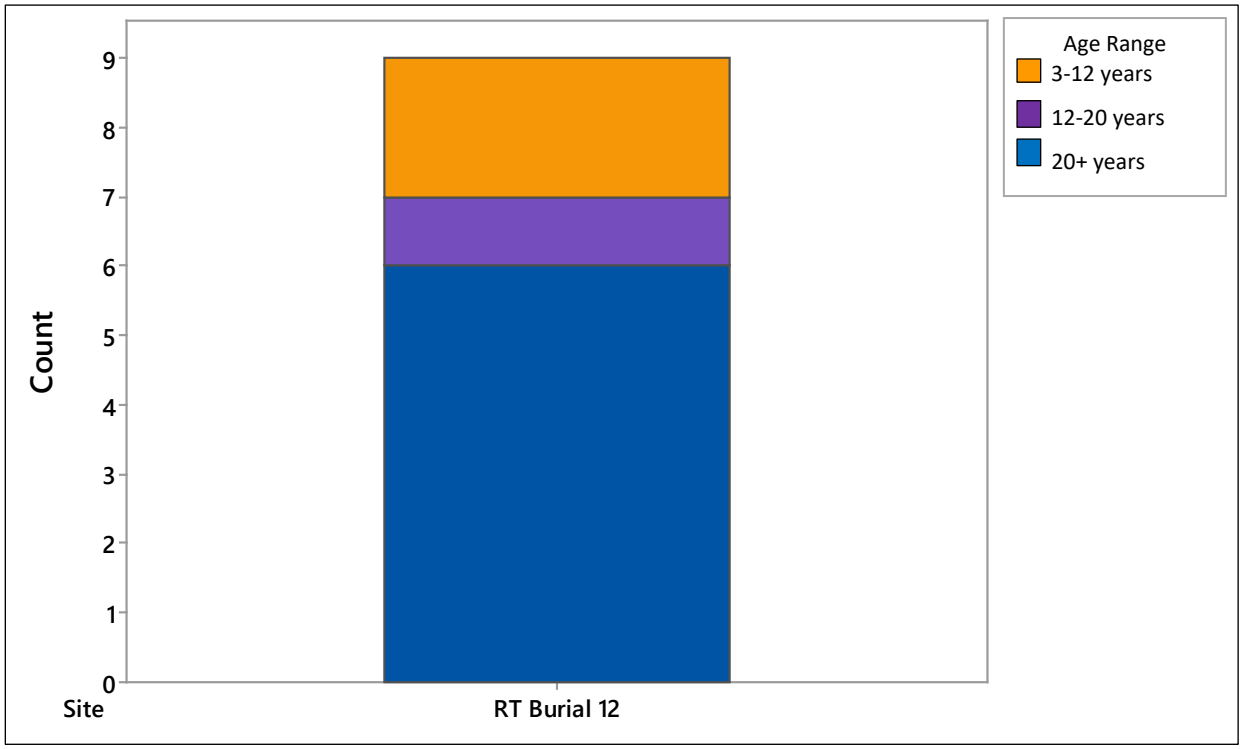

Figure 4.12. Counts of Nabataean individuals buried at the Renaissance Tomb by age range.

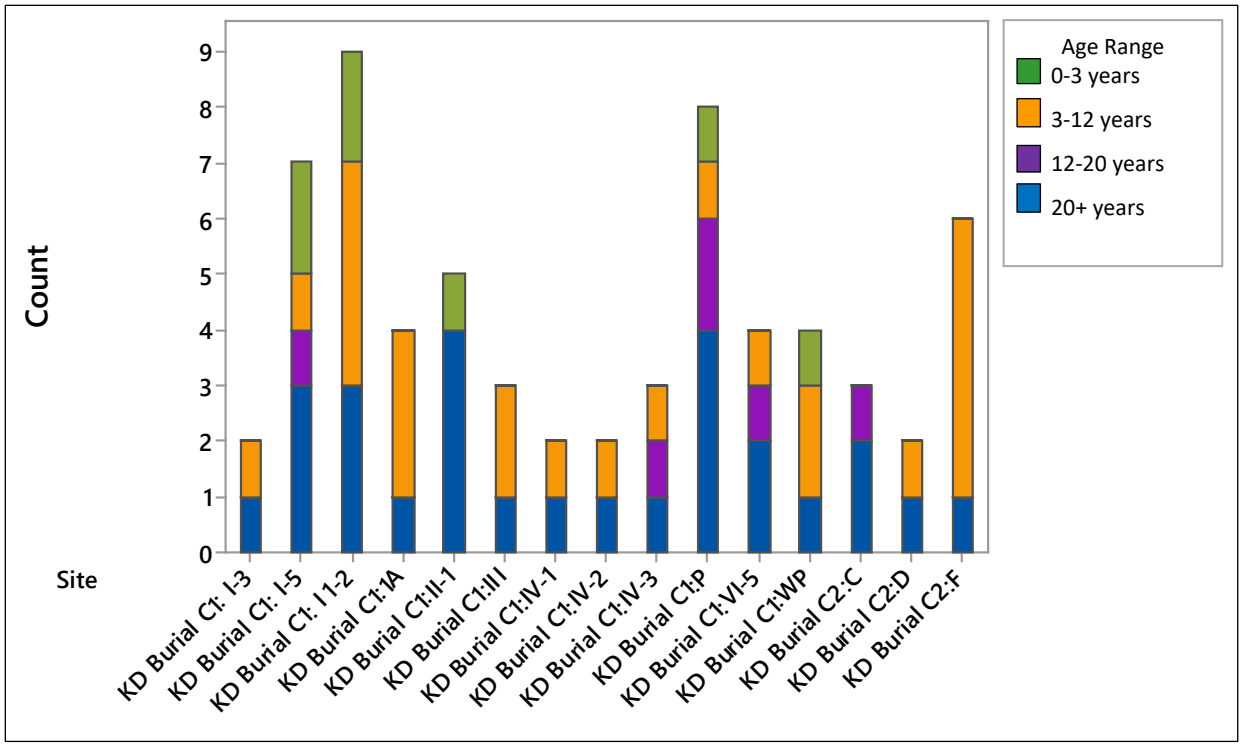

Figure 4.13. Counts of Nabataean individuals buried at Khirbet edh-Dharih by age range.

Most non-monumental tombs primarily contain burials of single Nabataean individuals. Even the pit graves at the QAIA and Umm el-Jimal sites appear to have been built with the intention of being reused.[242] These graves were engineered for multiple burials that were stacked on top of each other. Some non-monumental tombs appear to have been organized according to family groups.[243] Ibrahim and Gordon suggest that at the QAIA site individuals sharing a grave, or stacked on top of each other in the same receptacle, are family relations; while burials not in the same receptacle but still close together could indicate clan membership.[244] Figures 4.14–4.16 illustrate the Nabataean group burials containing adults and subadults for each burial site.

[242] Cheyney et al., "Umm al-Jimal Cemeteries Z, AA, BB and CC," 358.

[243] Like the graves on the west side of the Soldier's Tomb; Schmid, "Nabataean Funerary Complexes," 2008.

[244] Ibrahim and Gordon, *A Cemetery at Queen,* 37.

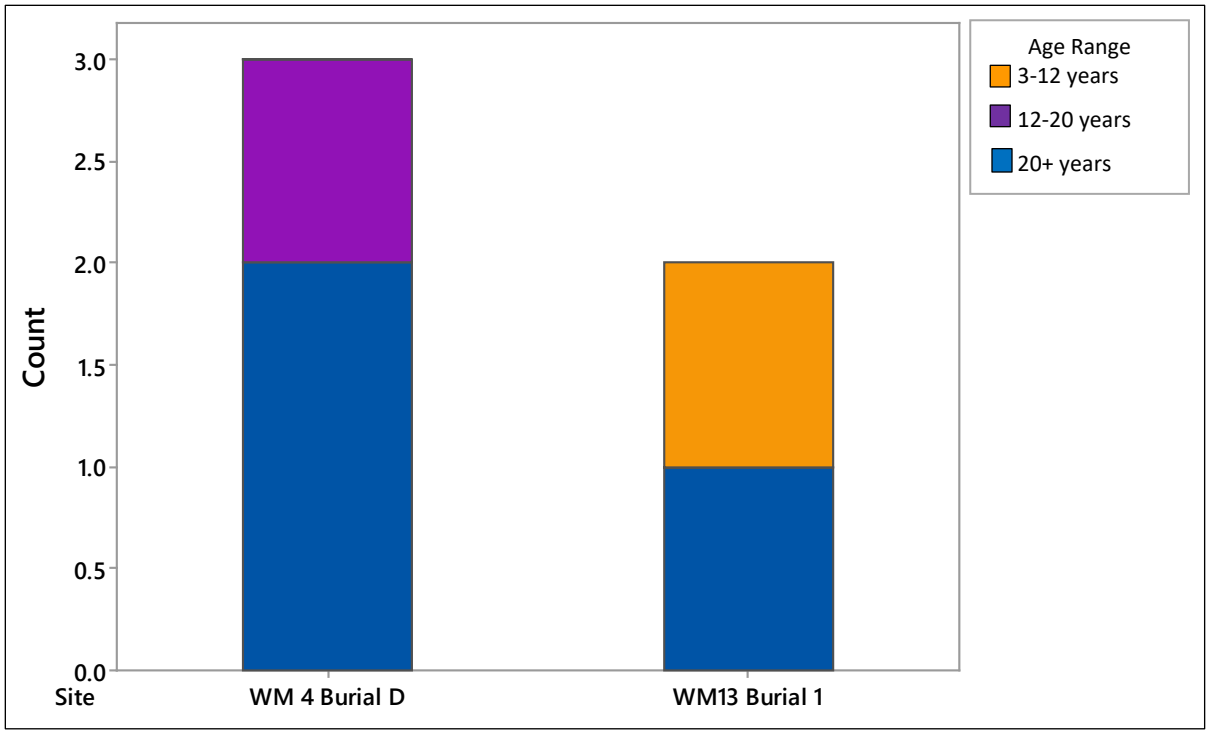

Figure 4.14. Counts of Nabataean individuals buried at Wadi Mataha Site 4 and 13 by age range.

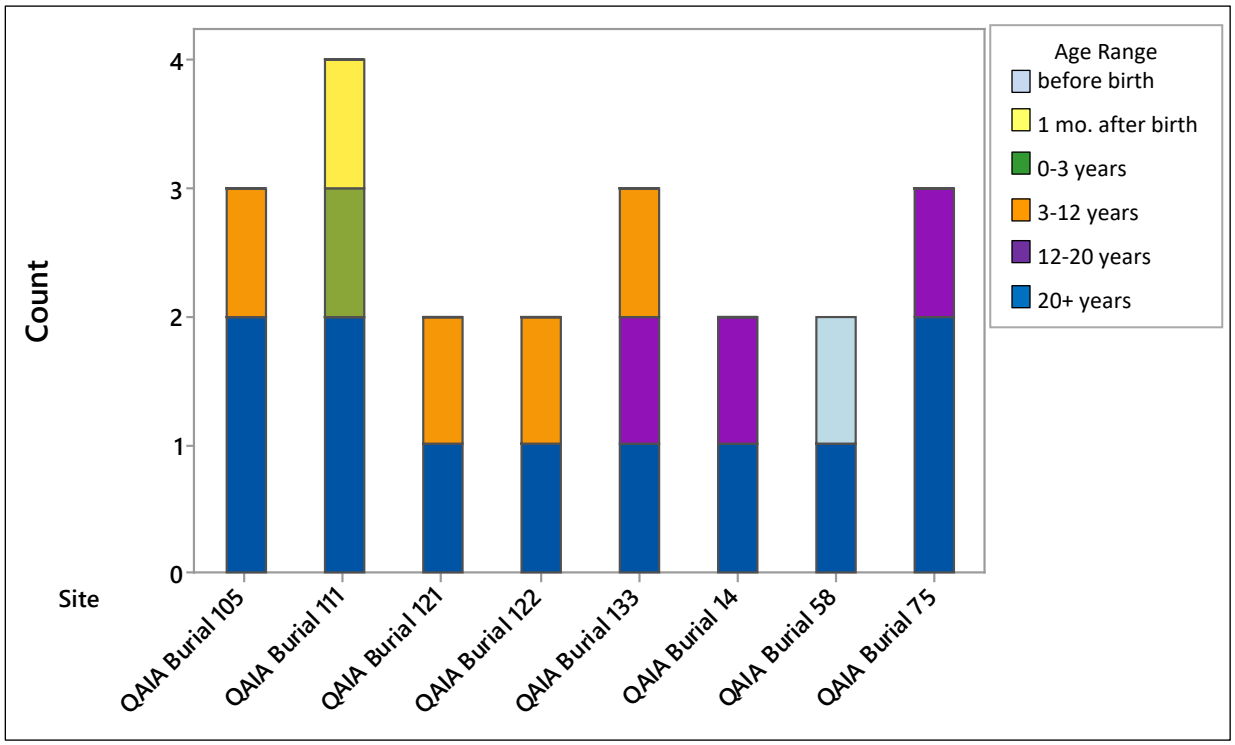

Figure 4.15. Counts of Nabataean individuals buried at QAIA by age range.

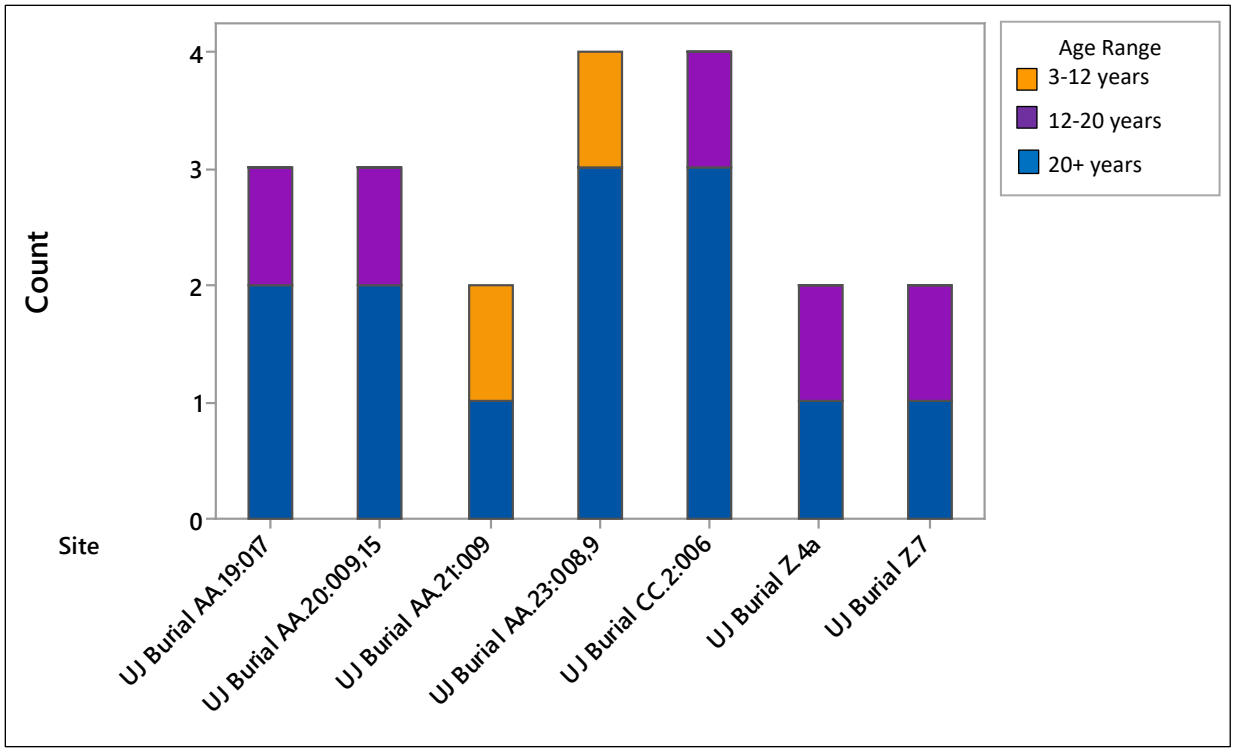

Figure 4.16. Counts of Nabataean individuals buried at Umm el-Jimal by age range.

Grave Goods

Ceramics and jewelry form most grave associated with the multiple burials of Nabataean adult and subadult graves. Figure 4.17 illustrates the results of the cluster analysis with this burial grouping. The first cluster consists of ceramics, faunal, bone, and wood. The second cluster consists of glass, shell, metal, stone, coins, and jewelry. The third cluster consists of textiles, leather, sandals, and no grave goods. The similarities of grave goods found together in these grouped burials is almost identical to those for Nabataean adult burials (Figure 4.6) and the general pattern of grave goods found in most burials (Figure 4.3). Overall, there appears to be no significant patterns between age and grave goods in Nabataean mortuary practices. The differences appear to be correlated to economic statuses.

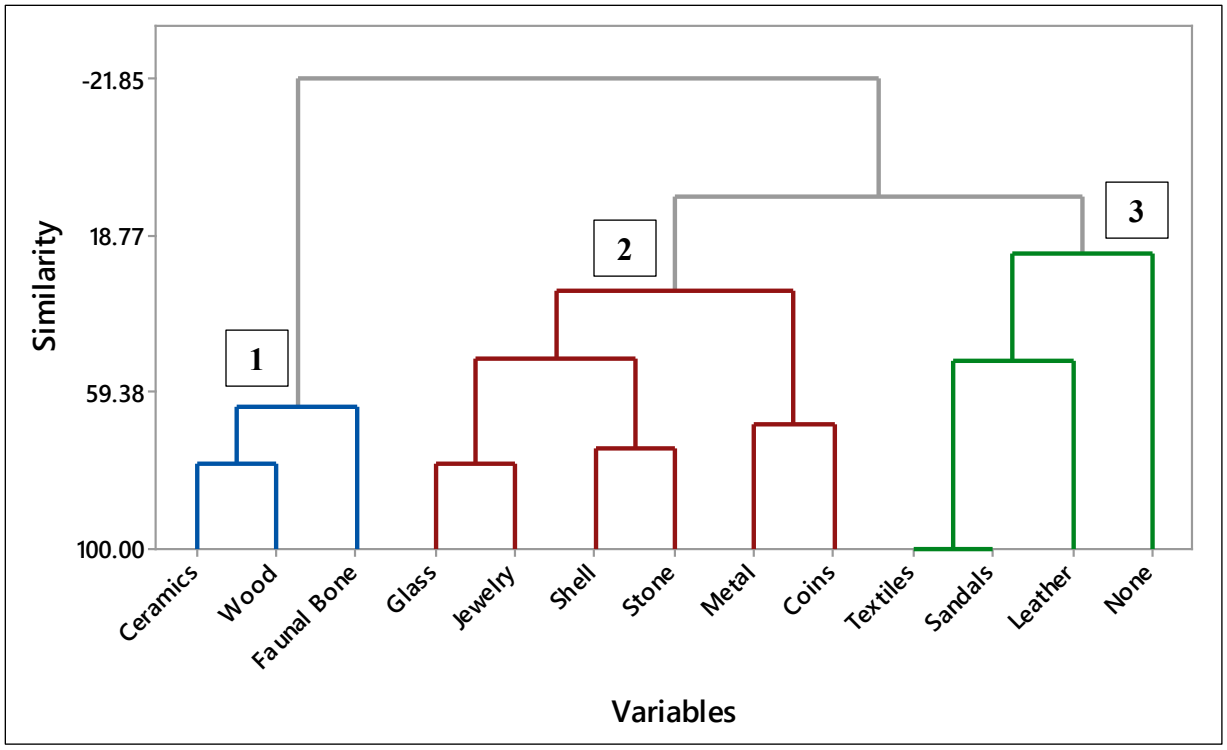

Figure 4.17. Cluster analysis of grave goods for Nabataean adult and subadult burials.

Conclusions

Typical Nabataean burial patterns, observed from the quantitative analysis, include primary or secondary burial of individuals in a tomb *loculus* (Type I), often with multiple remains of various ages commingled. It is unclear whether the skeletal remains were deposited in such a way as to turn graves into ossuaries, or whether these deposit characteristics result from post-interment looting.

Singular, primary burials of Nabataean individuals are typically found in non-monumental tombs (Type IV burial). Assemblages of grave goods are similar in tomb and non-monumental tombs graves. They consist mainly of personal adornment, burial shrouds, and ceramic vessels. These patterns apply to both Nabataean adult and subadult burials. The only major difference observed in the analysis was the low frequency of singular subadult burials and

the high frequency of singular adult burials. It appears that typical Nabataean adult burials were singular or with other adults, while typical Nabataean subadult burials were multiple, and most often with adults.

Of the 225 burial receptacles analyzed (not including Hegra burials), only 47 had Nabataean subadult remains. Subadults were almost never found buried with other Nabataean subadults. In fact, the only burial that contains two subadults is from Umm el-Jimal (CC.2:007). This differs from burials with Nabatean adult remains. Of the 127 burials that house Nabataean adults, only 11 of those burials contain multiple individuals. Of the 58 individuals aged three and younger at the time of death, 51 were buried in tombs and the remaining seven were buried in non-monumental tombs. Once again, these numbers suggest that the majority of Nabatean adults were provided their own grave. The departures from this general mortuary pattern are discussed in Chapter 5.

It is interesting to note that singular Nabatean infant burials were placed mostly in non-monumental tombs. It could have been expected that the more economically wealthy burials would be individual, but that has not been the case. In my sample, only five individuals under the age of three were buried by themselves or with other subadults: North Ridge Tomb 2 burial 10, and Umm el-Jimal (AA.20:019, CC.2:005, and CC.2:007). It is significantly more common to find burials containing multiple individuals of Nabataean adult and subadults in non-monumental tomb graves.

Most multiple burials were found in monumental tomb contexts (this could be due to the fact that the majority of the burial sites were monumental tombs). There are 51 burial receptacles that hold Nabataean adult and subadult remains (107 adults, 91 subadults). Seventy-seven percent of Nabataean adults buried with subadults were found in monumental tombs. Fifteen of

the 51burial structures contained individuals three years old or younger. Thirteen of the 15 burials with infants were found in tomb graves, and the other two burials with adults and individuals under the age of three years were found in non-monumental tombs.

There is no evidence that gender was a factor in the burial of Nabataean subadults. Of adults for whom biological sex was determined, five subadults were buried with female adults, and five subadults with male adults. More data needs to be collected to determine whether biological sex was a factor in Nabatean burial decisions.

The analyses performed in this chapter demonstrate that normative Nabataean burial patterns might include single adult burials in *loculi*-shaped graves that occasionally had other age groups buried with them. Single Nabatean subadult burials appear to be abnormal and uncommon.

5 | NABATAEAN CEMETERY POPULATIONS

In order to answer the question of whether or not Nabataean infants were absent from or under-represented in Nabataean cemeteries, I compared 14 Nabataean cemetery populations with a model life table. A model life table depicts the age at death of "typical populations" with similar geographical and ecological conditions during a specific time period. A regular life table, in contrast, depicts an actual population during a specific time and place.[245] Comparing a life table with a model life table can assist with the determination of whether a historic population fits the description of a "typical" mortality population from that time and place. To answer my thesis question I compared life tables from 14 Nabataean cemetery populations against Walter Sheidel's model life table that relies on the census returns of Roman Egypt (first to third centuries CE) and the Coale-Demeny Model West, specifically the Level 2 model for females and the Level 4 model for males.[246]

Methods

There are two prevailing positions on the use of model life tables to reconstruct the demography of ancient civilizations. The first position, advocated by Tim Parkin, argues that these models should be used as default demographics for ancient civilizations. He states that "in effect, the cautious and informed use of model life tables can help us gain a greater understanding of the population and of the society of the ancient world, in ways that have

[245] Roger S. Bagnall, and Bruce W. Frier, *The Demography of Roman Egypt* (Cambridge University Press, 1994), 33.

[246] Scheidel, "Demography," 38–86. Ansley J. Coale, and Paul Demeny, *Regional Model Life Tables and Stable Populations*. (Princeton University Press, 1966), 1–218.

hitherto been unattainable because of the lack of direct and realistic data on ancient populations."[247] The second position, utilized in this thesis, is that model life tables act as heuristic devices to assist in determining whether empirical evidence is valid.[248] Walter Scheidel's model life table is an updated version of Roger Bagnall and Bruce Frier's model life table for Roman Egypt. Their model is based on Roman Egyptian census returns and the Coale-Demeny Model West. My decision to use Scheidel's model is because it draws upon "one of the most substantial samples of quantifiable demographic evidence from the ancient world." [249] Also, the data is comparable in time and spatial proximity to Nabataea during the height of its political power. However, it must be recognized that Roman Egypt maintained a much less challenging environment than Nabataea in many ways due to the water resources represented by the Nile River versus the environments of southern Jordan and north Arabia during the same time period.

These surviving Egyptian census returns record the ages of individuals inside each household from the first to third centuries CE. Over 300 of these documents have been recovered which list 747 ages of individuals (351 for females, 372 for males, and 24 with no gender recorded).[250] These documents were utilized to reconstruct the mean levels of life expectancy of the Roman Egyptian population.[251] In order to accomplish this reconstruction the raw data went through needed "smoothing procedures."[252] These procedures included accounting for sex-

[247] Tim Parkin, *Demography and Roman Society* (London, 1992), 90.

[248] Scheidel, *Death on the Nile*, 121.

[249] Ibid., xxvi.

[250] Scheidel, *Death on the Nile*, 118.

[251] Bagnell and Frier, *The Demography of Roman Egypt* (1994).

[252] Scheidel, *Death on the Nile*, 118.

specific reporting biases, the predominance of ages from urban populations reported in the data and the difference in life expectancy among females and males.[253] Bagnall and Frier determined that the mean life expectancy at birth in Roman Egypt during the first to third centuries CE was between 22 and 25 years. This mean life expectancy is consistent with the Coale-Demeny Model West.

In 1966, Ansley J. Coale and Paul Demeny published data on four families of model life tables.[254] Coale and Demeny used 326 actual life tables to create model life tables that they then grouped into four families based on their similarities of mortality age patterns and geographical regions: "North, South, East and West Families."[255] The Model West life tables are favored by historians to reconstruct ancient demographics since the mortality age patterns reflect high fertility and high mortality that is common in pre-industrial countries.

To create a model life table that would reflect the specific conditions of the ancient Mediterranean world during the first few centuries CE, Bagnell and Frier compared their model life table from the Roman Egyptian census returns mentioned earlier with the Coale-Demeny Model West. Since Bagnell and Frier's published their models in 1994, Scheidel has examined them and noticed several issues that Bagnell and Frier neglected to address. Those issues included the effect of local epidemics, the effect of economics, and the likely size of the population of Roman Egypt.[256] Scheidel also discusses the model in comparison with epigraphic

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[253] Bagnell and Frier, *The Demography of Roman Egypt*, 76–81, 91–92.

[254] Coale and Demeny, *Regional Model Life Tables* (1966).

[255] Ibid, 11. For further information about how Coale and Demeny calculated the model life tables refer to Chapter 1 of *Regional Model Life Tables* (1966).

[256] Ibid., xxviii. For a complete list refer to Chapter 3 of Scheidel's *Death on the Nile*.

evidence from inscriptions and mummy labels.[257] Scheidel's improved model life table however, still carries inherent biases in the data.

Observation of the 300 census returns revealed that the data does not adequately describe the demography of all Roman Egypt.[258] First, the returns that survived represent a tiny sample (300 documents out of an estimated 24 million documents) of the population of Roman Egypt during those three centuries.[259] Second, the majority of the returns are from villages and metropolises within Middle Egypt.[260] Third, the urban population is over-represented (Scheidel adjusts the raw data to account for this by using an urban-rural ratio of one to four).[261] The limitations of this model, however, do not outweigh its use as a heuristic device in determining whether empirical evidence is valid.

Nabataean Cemetery Populations Compared to Scheidel's Model Life Table

Scheidel's model life table presents the percentage of expected mortality for a specific age providing the expected high bound, the expected low bound, and the expected notional mean. Scheidel clarifies that the Roman Egypt model, depicted in Figure 5.1, is "best understood as rough approximations that map out the limits of the plausible."[262]

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[257] Ibid, 31.

[258] Bagnell and Frair, *The Demography of Roman Egypt*, 50–52. Scheidel, *Death on the Nile*, Chapter 2. Scheidel, "Demography," 44.

[259] Scheidel, *Death on the Nile*, 142.

[260] Ibid., 142.

[261] Ibid., 143.

[262] Scheidel, "Demography," 40.

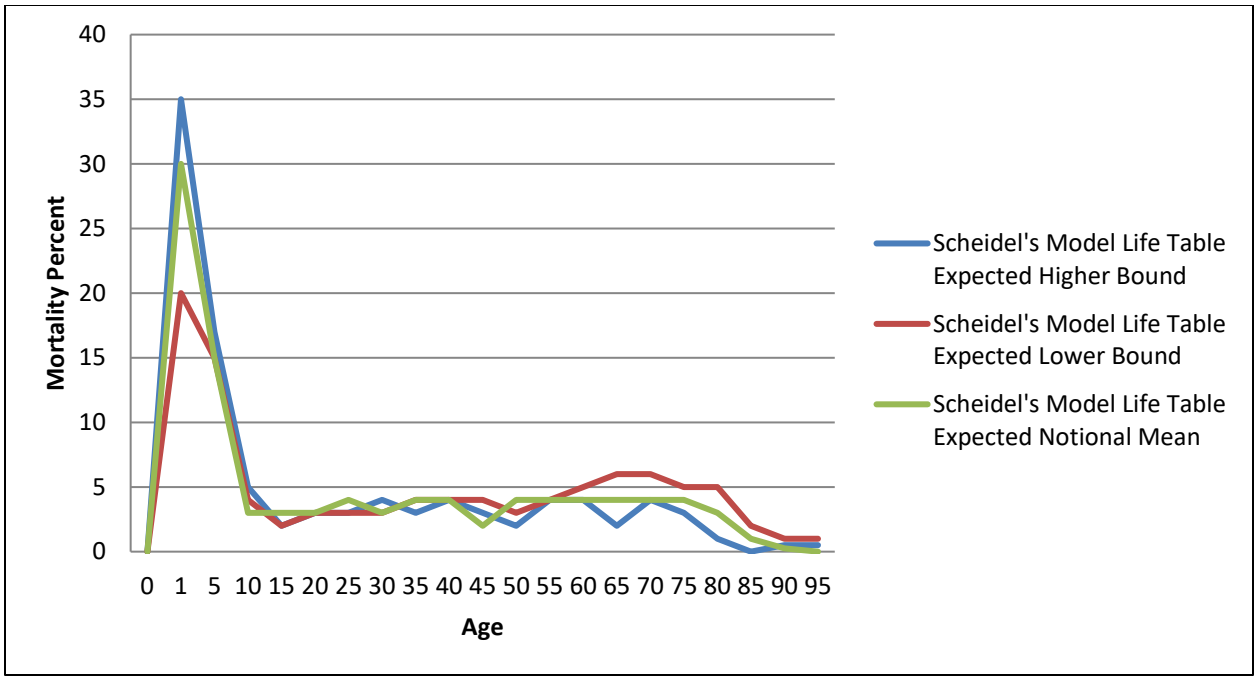

Figure 5.1. Scheidel's model life table depicting the percent of mortality at specific ages for Roman Egypt during the first to third centuries CE.

Scheidel's model demonstrates that populations in Roman Egypt experienced high mortality rates among the age range zero to five years, with individuals three times as likely to die before age ten as after age 60.[263] The expected high bound for death at age one was 80 percent, the expected low bound for death at age one was 65 percent. The mean life expectancy for Roman Egypt was 22 to 25 years old.[264]

I have adapted Scheidel's model life table so that it corresponds to the age ranges that I collected from 14 Nabataean burial site reports. Figure 5.2 compares the cemetery population from 14 Nabataean burial sites with Scheidel's expected notional mean. The Nabataean cemetery population for the age range zero to three years is 10 percent, compared with the model's mean for that age range at 26 percent. The age range three to 12 years for the Nabataean cemetery

[263] Ibid., 40.

[264] Ibid., 39.

populations and the model's mean gap is less, but this age group is slightly under-represented comparatively in Nabataean documented context as well as the zero to three age range. The age range 12 to 20 years in Nabataean burials is six percent higher than the model's mean. Possible human behaviors and environmental conditions that affected these numbers are discussed in the next chapter.

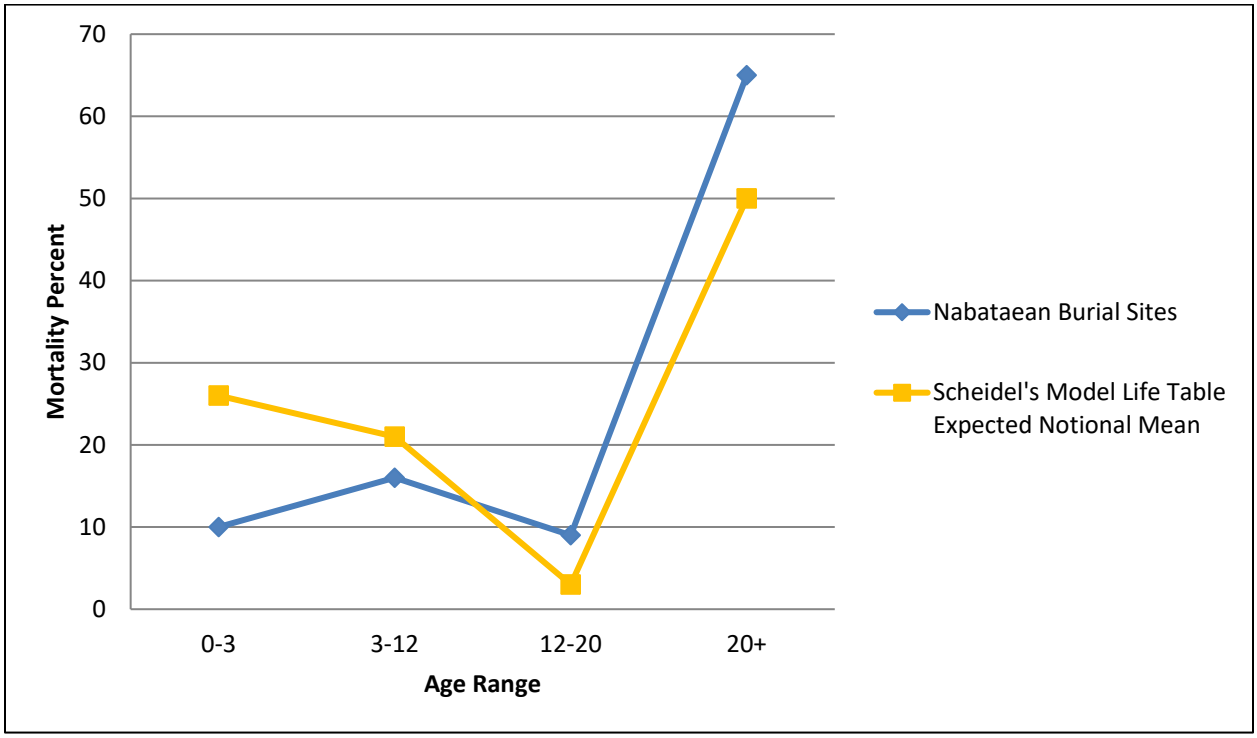

Figure 5.2. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and 14 Nabataean cemetery populations.

Figure 5.2 provides a broad comparison of mortality percentages from each Nabataean cemetery population percentages with the expected model percentages. Figures 5.3 to 5.16 provide the percentages of mortality for specific age ranges from each Nabataean cemetery population and Scheidel's model life tables expected notional mean percentages.

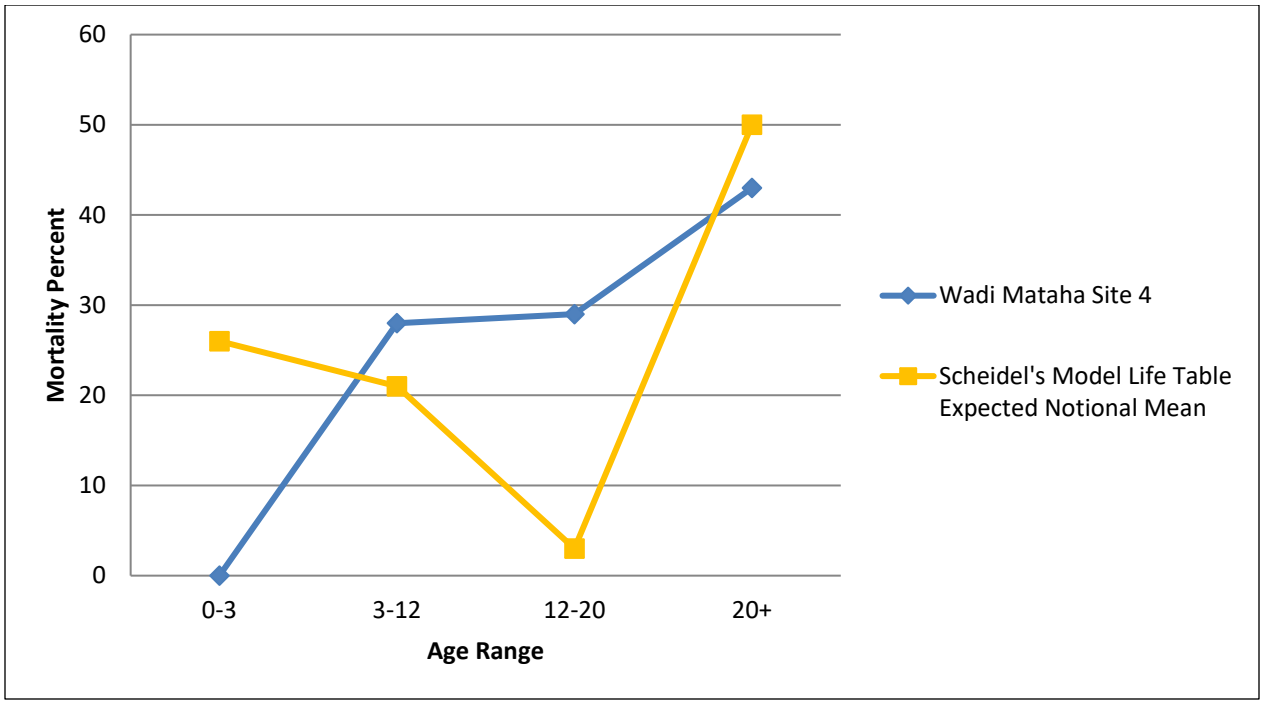

Figure 5.3. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Wadi Mataha Site 4 Nabataean cemetery populations.

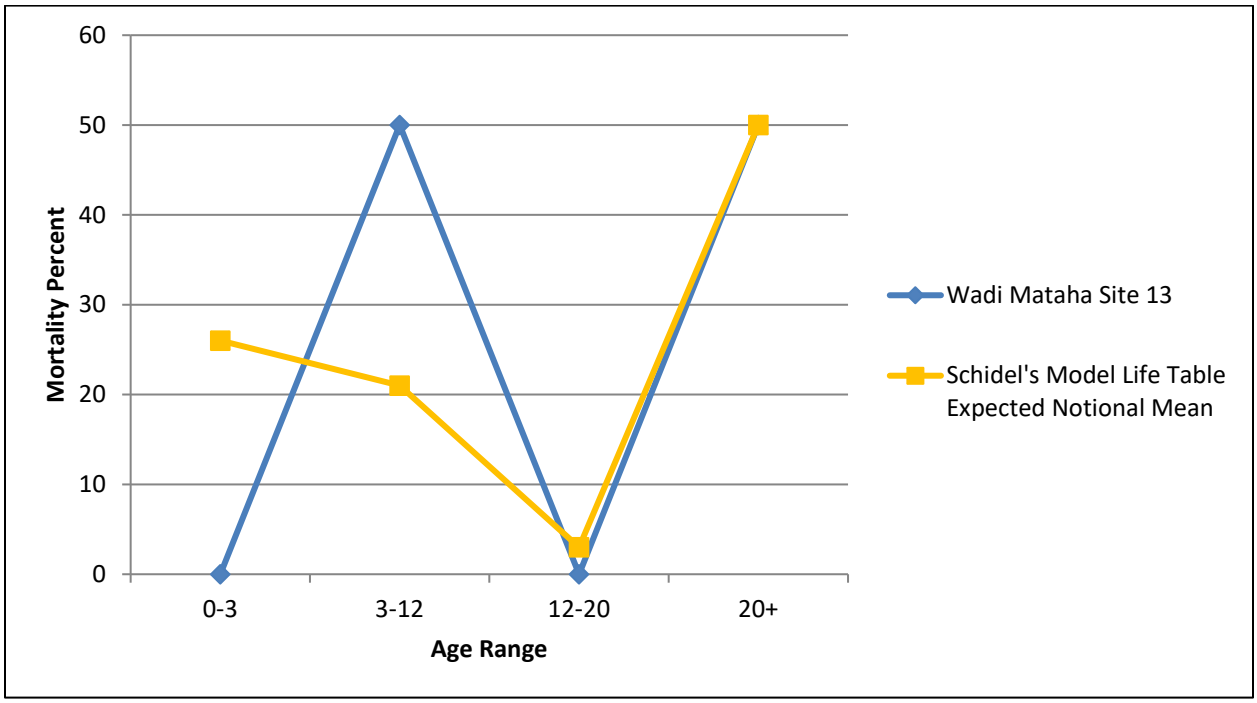

Figure 5.4. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Wadi Mataha Site 13 Nabataean cemetery populations.

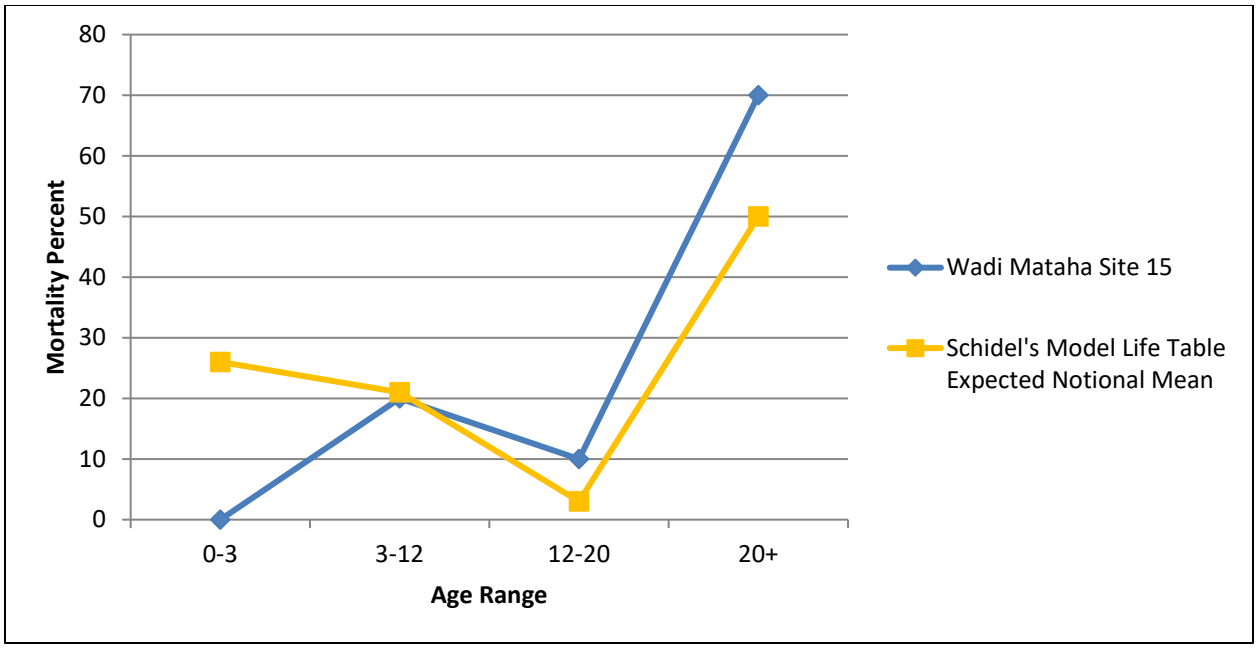

Figure 5.5. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Wadi Mataha Site 15 Nabataean cemetery populations.

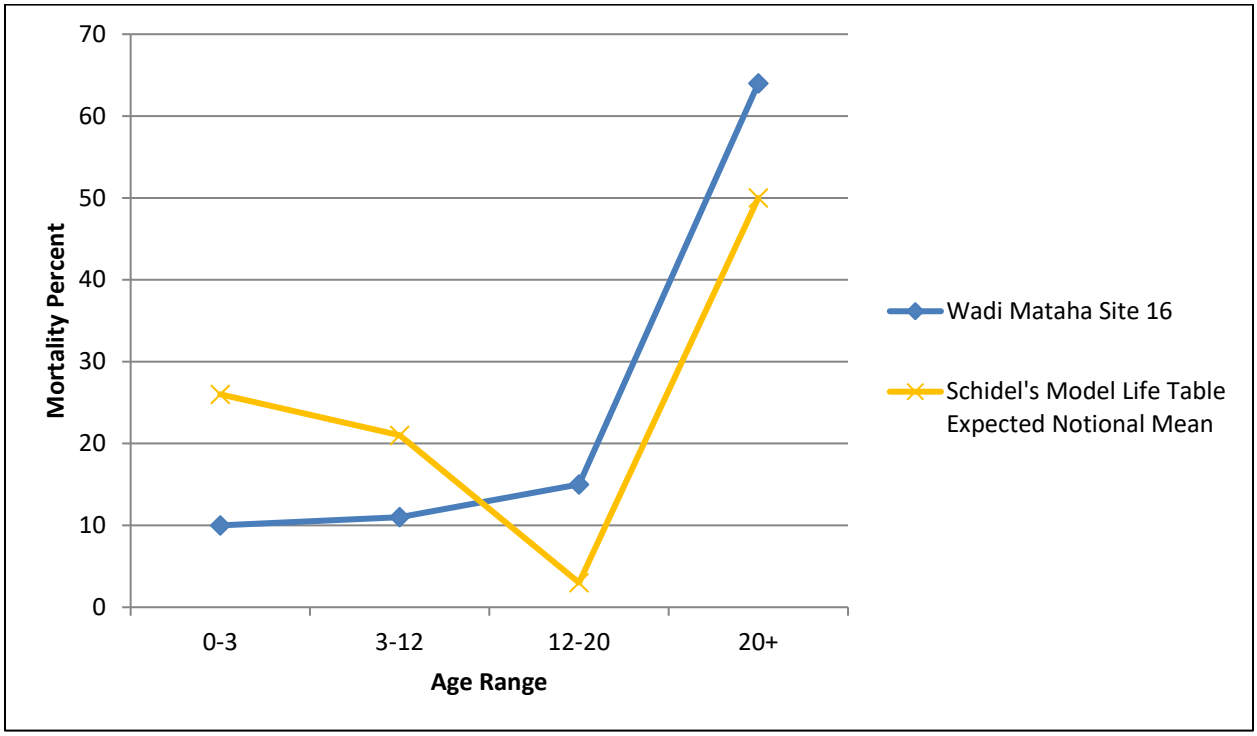

Figure 5.6. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Wadi Mataha Site 16 Nabataean cemetery populations.

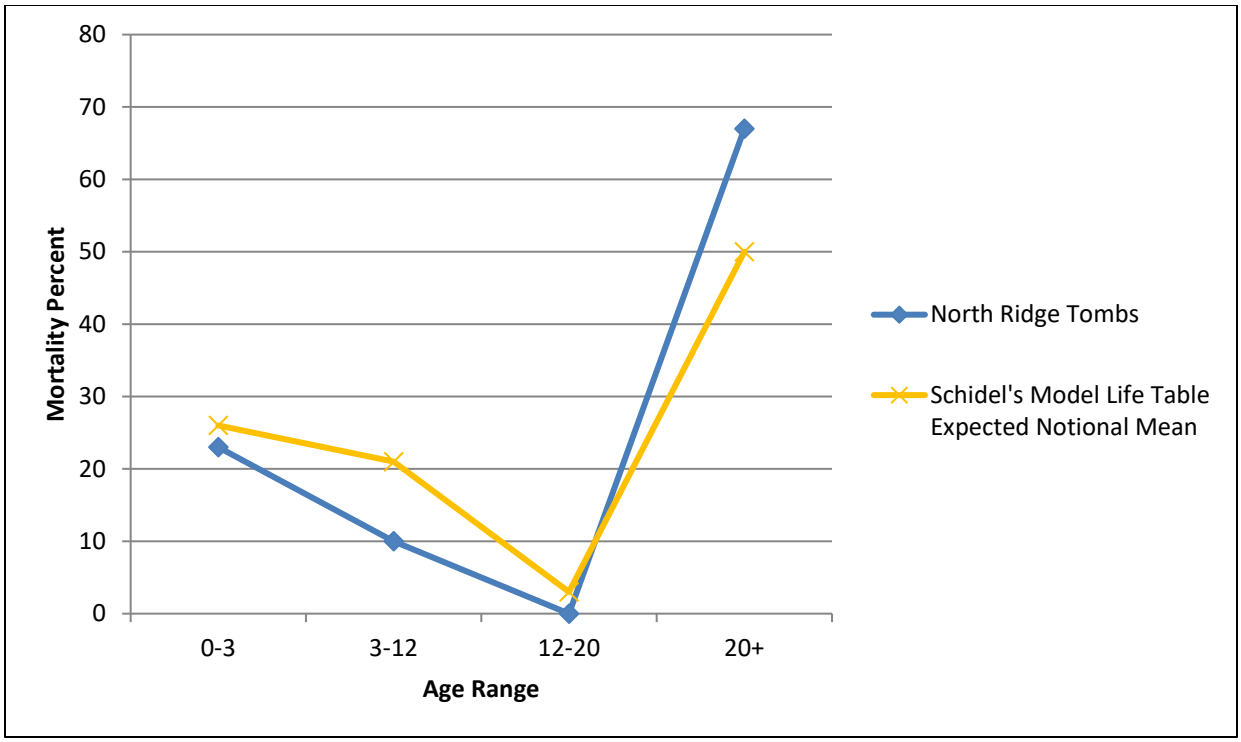

Figure 5.7. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the North Ridge Tombs Nabataean cemetery populations.

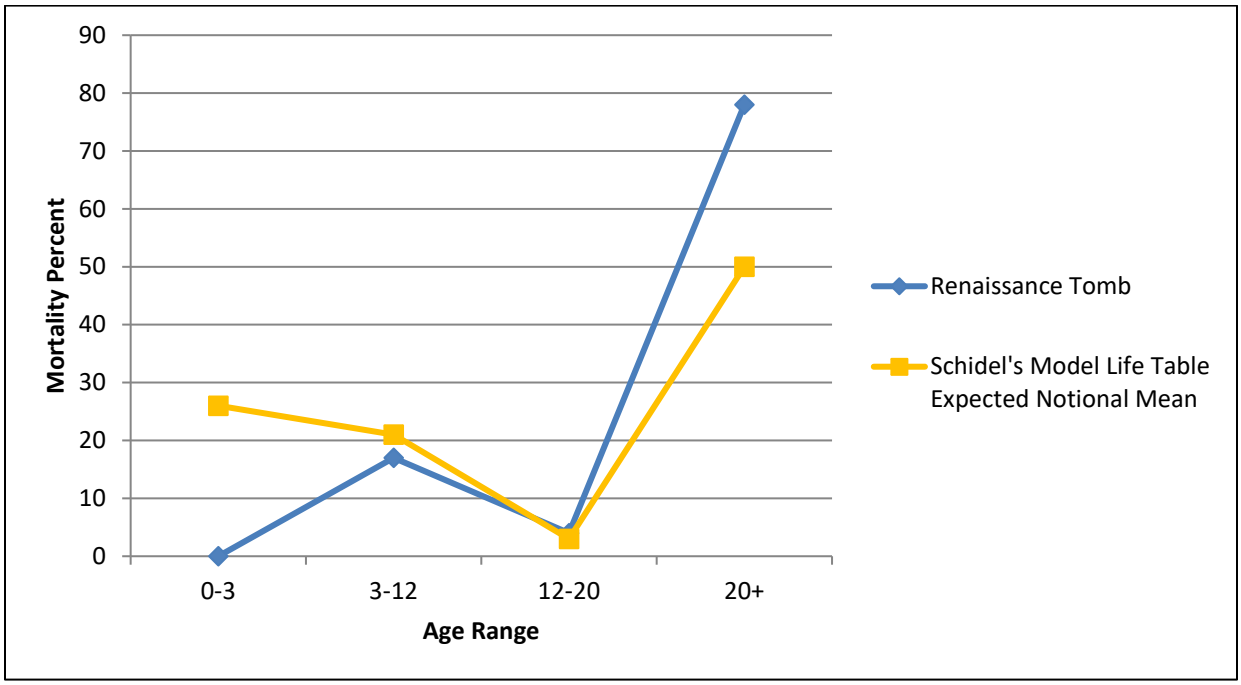

Figure 5.8. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the Renaissance Tomb Nabataean cemetery populations.

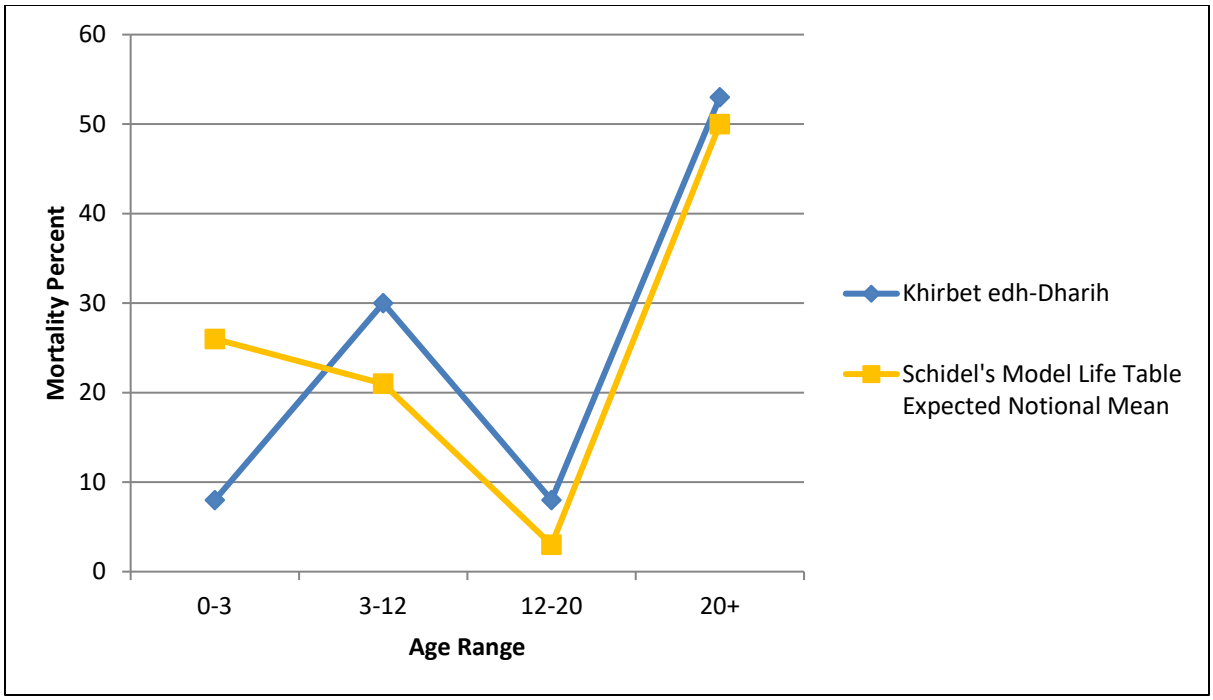

Figure 5.9. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the Khirtbet edh-Dharih Nabataean cemetery populations.

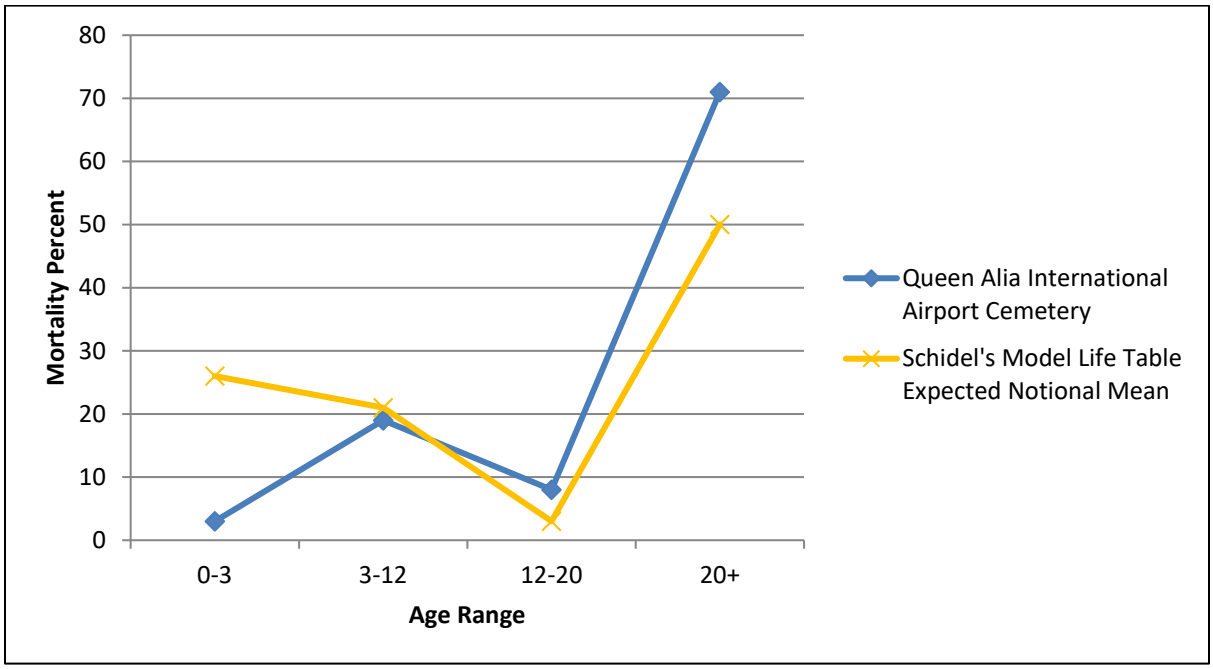

Figure 5.10. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the Queen Alia International Airport Nabataean cemetery populations.

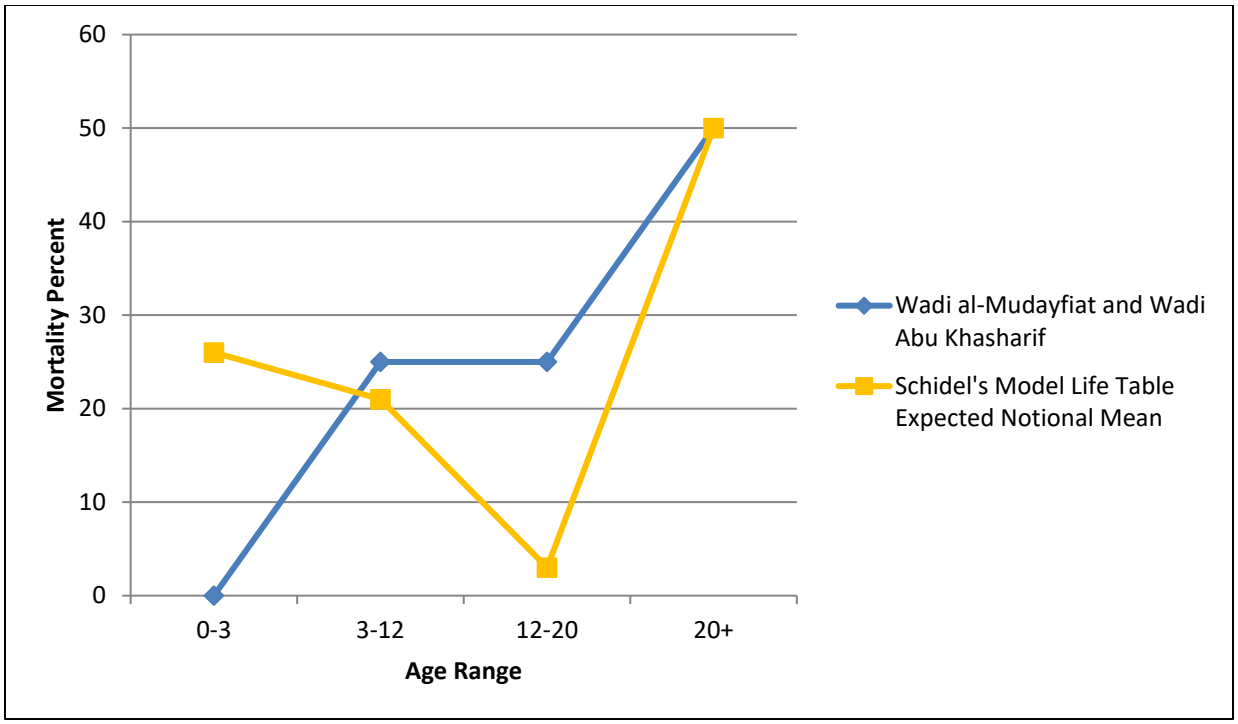

Figure 5.11. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the Wadi al-Mudayfiat and Wadi Abu Khasharif Nabataean cemetery populations.

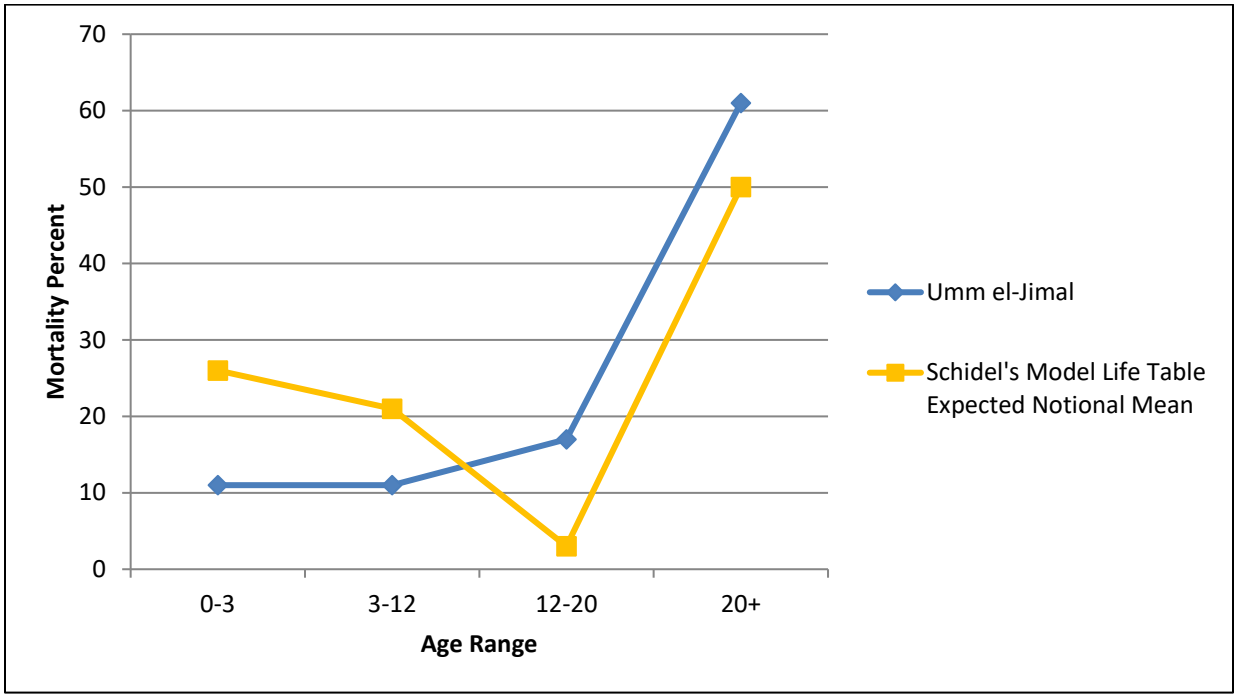

Figure 5.12. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the Umm el-Jimal Nabataean cemetery populations.

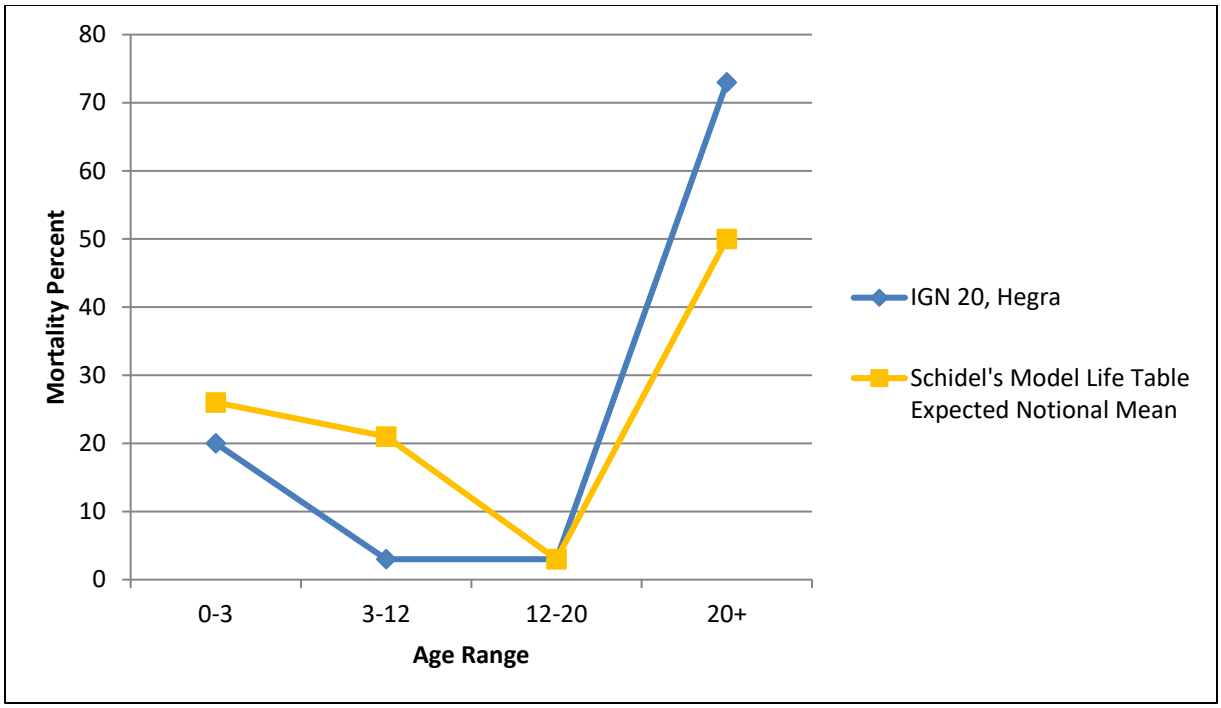

Figure 5.13. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the IGN 20, Hegra Nabataean cemetery populations.

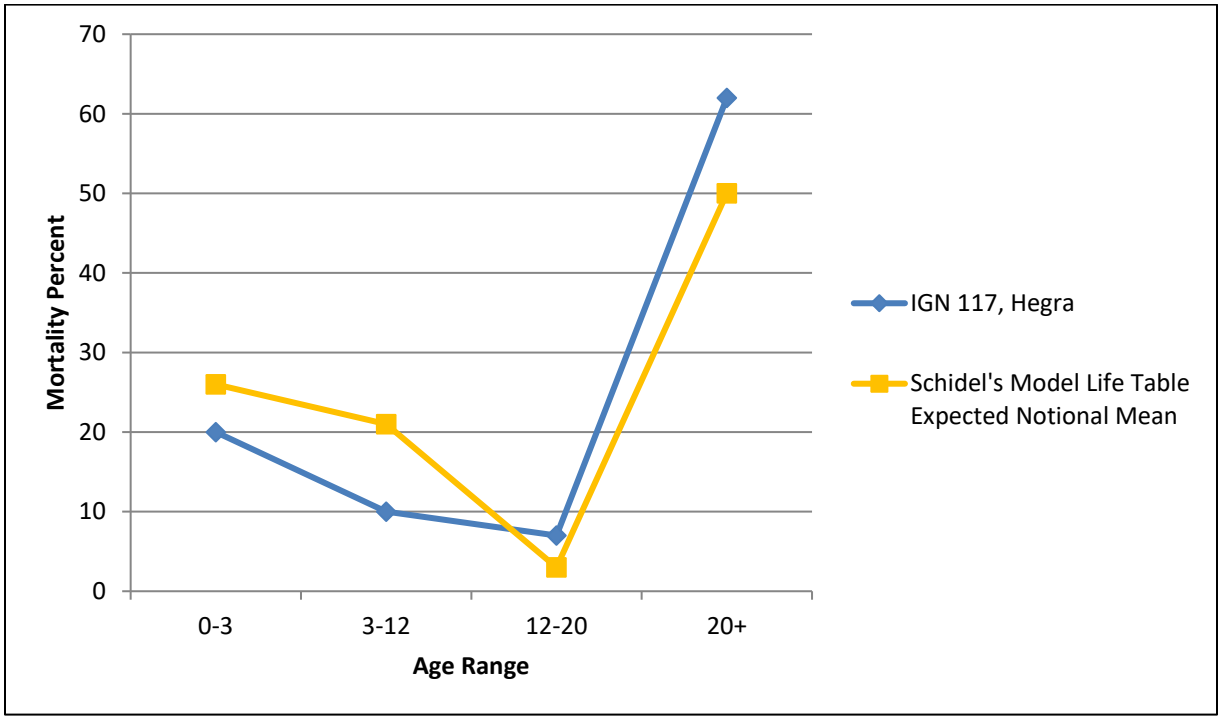

Figure 5.14. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the IGN 117, Hegra Nabataean cemetery populations.

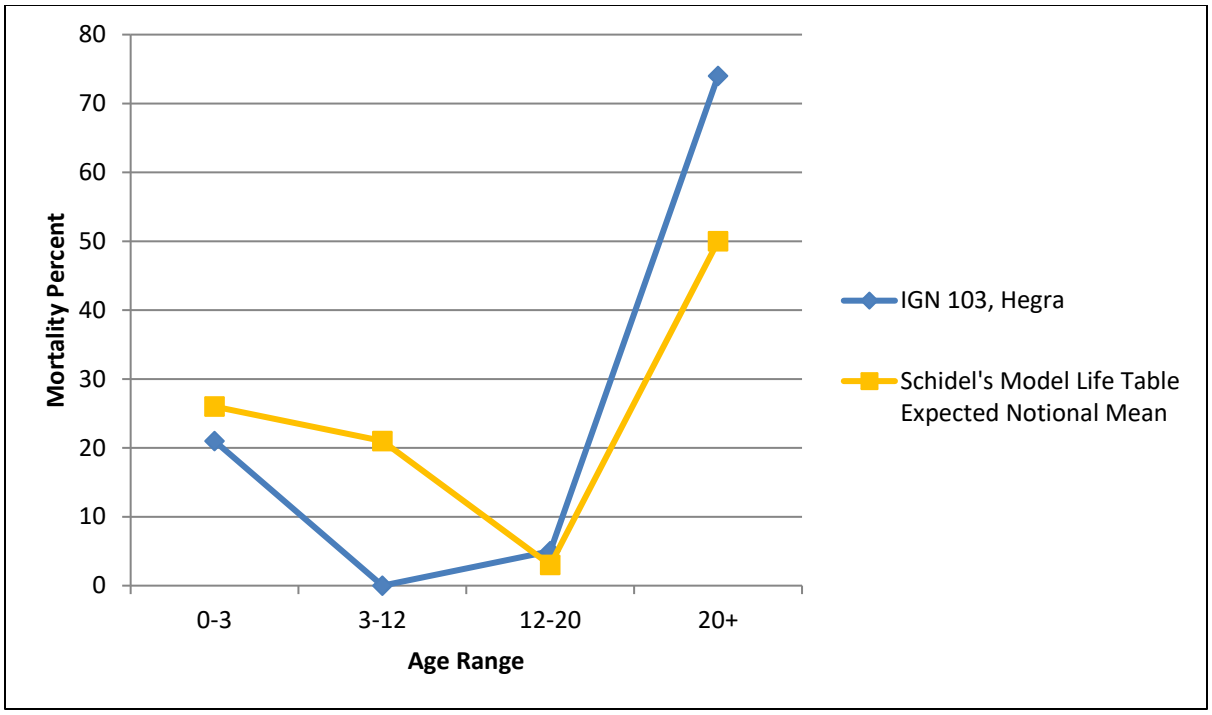

Figure 5.15. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the IGN 103, Hegra Nabataean cemetery populations.

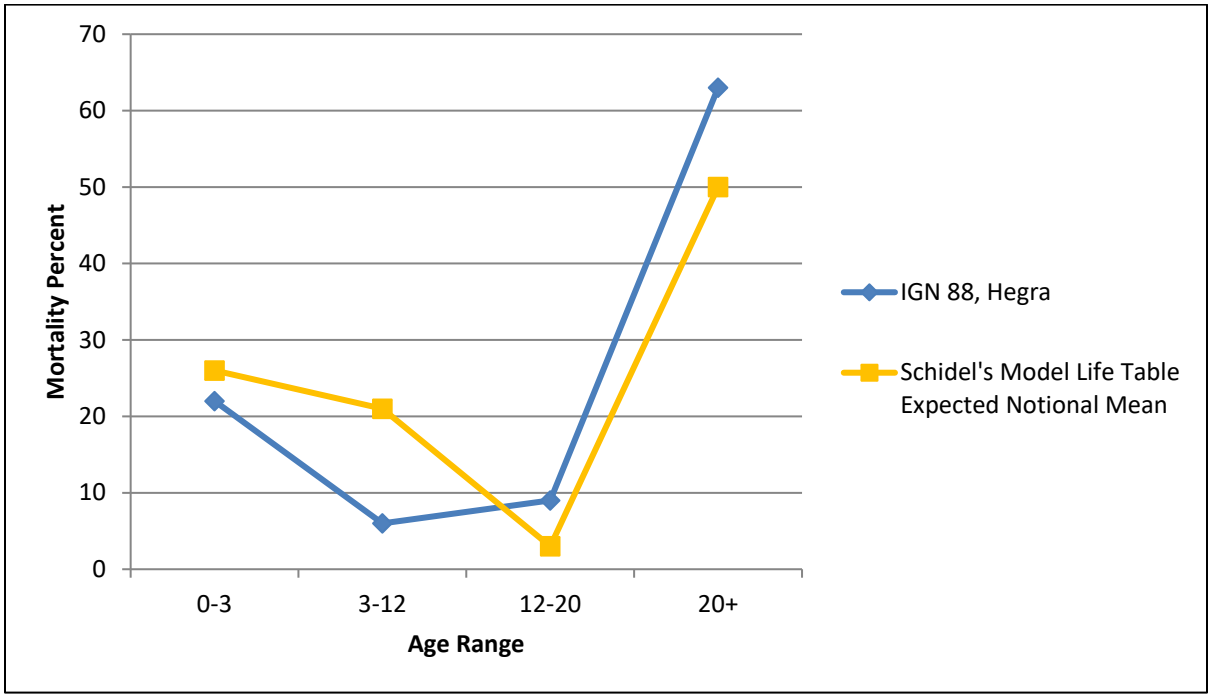

Figure 5.16. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and the IGN 103, Hegra Nabataean cemetery populations.

Each of the figures above demonstrates that none if the Nabataean cemetery populations were identical in percentage of mortality. Percentages for the age range zero to three years in all 14 of the Nabataean cemetery populations were lower than the model's mean percent. There were five Nabataean cemetery populations with percentages for the age range zero to three years that were between the model's expected lower bound and expected mean percentages: North Ridge Tombs, Hegra tombs IGN 20, IGN 117, IGN 103, and IGN 88.

Six of the Nabataean cemetery population's percentages for the age range three to 12 years met or exceeded the models expected mean percentage: Wadi Mataha Site 4, Wadi Mataha Site 13, Wadi Mataha Site 15, Khirbet edh-Dharih, Queen Alia International Airport Cemetery, and Wadi al-Mudayfiat and Wadi Abu Khasharif. The remaining eight Nabataean cemetery population's percentages for the age range three to 12 years were lower than the model's expected mean percentage: Wadi Mataha Site 16, North Ridge Tombs, Renaissance Tombs, Umm el-Jimal, Hegra tombs IGN 20, IGN 117, IGN 103, and IGN 88.

Twelve of the Nabataean percentages for the age range 12 to 20 years met or exceeded the model's mean percentage: Wadi Mataha Site 4, Wadi Mataha Site 15, Wadi Mataha Site 16, Renaissance Tomb, Khirbet edh-Dharih, Queen Alia International Airport Cemetery, Wadi al-Mudayfiat and Wadi Abu Khasharif, Umm el-Jimal, Hegra tombs IGN 20, IGN 117, IGN 103, and IGN 88. The remaining two Nabataean population's percentages for the age range 12 to 20 years were lower than the model's mean percentage: Wadi Mataha Site 13 and the North Ridge Tombs.

The 20 plus age range is difficult to evaluate in comparison with the model because it is an open-ended age range that catches all ages after 20 years. All of the Nabataean populations

met or exceeded the model's mean percentage for this age range, except Wadi Mataha Site 4's percentage was slightly lower than the expected mean percentage.

To determine if the economic status of the deceased individual or their family factored into that individual being buried in a Nabataean cemetery, the percentages of cemetery populations for Nabataean tombs with facades and those without were compared. As was discussed in Chapter 1, tombs with facades are considered by scholars to have likely housed individuals of high economic status while individuals of low economic status likely were buried in tombs without facades. Figure 5.17 illustrates this comparison, as well as providing Scheidel's model life table expected notional mean for further comparison. Nabataean burial sites that have facades carved onto the outside of their tombs include Wadi Mataha Sites 15 and 16, the Renaissance Tomb, Khirbet edh-Dharih, Hegra tombs IGN 20, IGN 117, and IGN 88. Nabataean burial sites that do not have façades carved onto the outside of their tombs include Wadi Mataha Sites 4 and 13, the North Ridge Tombs, the Queen Alia International Airport Cemetery, Wadi al-Mudayfiat and Wadi Abu Khasharif, Umm el-Jimal, and Hegra tomb IGN 103.

Both the façade and non-façade tombs' percentages for age group zero to three years (façade tombs at 13 percent and non-façade tombs at 8 percent) were lower than the model's mean of 26 percent. Also, both façade and non-façade tomb's percentages for age group three to 12 years (both façade and non-façade tombs at 16 percent) were lower than the model's mean of 21 percent. Both façade and non-façade tomb's percentages for age group 12 to 20 years (both façade and non-façade tombs at 9 percent) were higher than the model's mean of six percent.

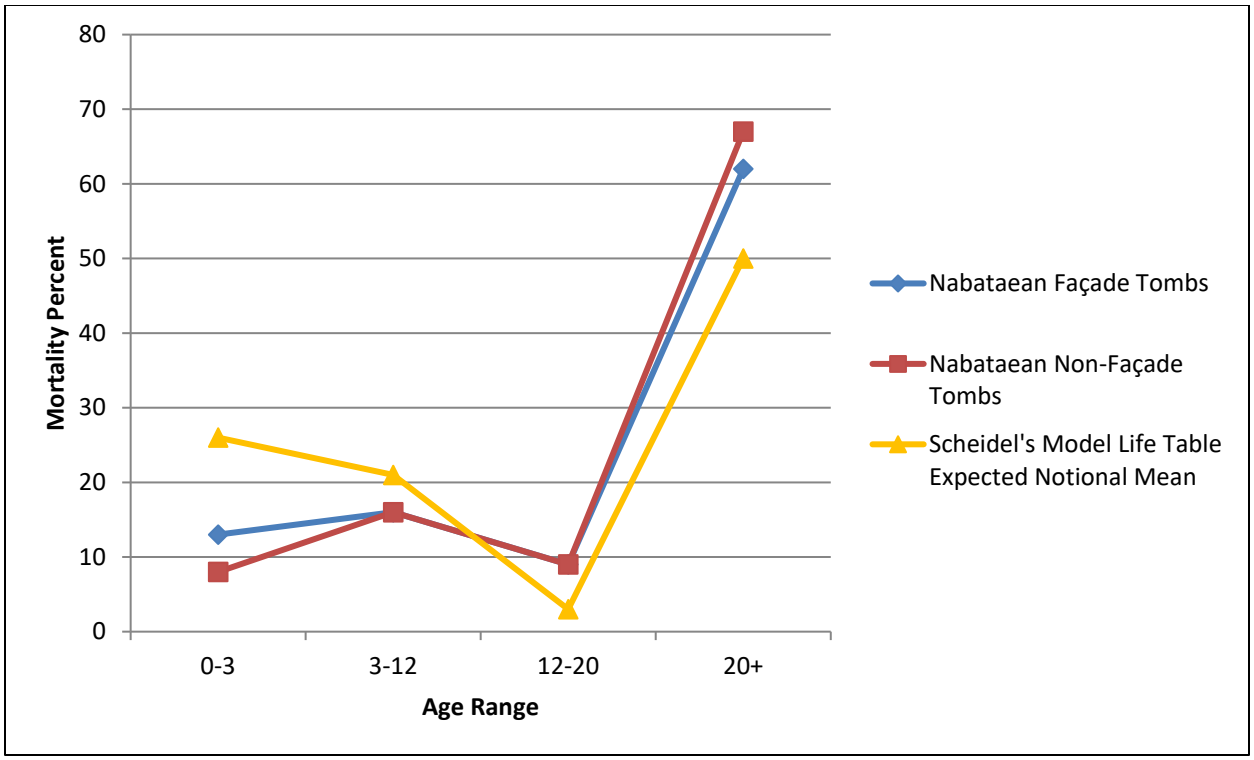

Figure 5.17. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Nabataean cemetery populations with façades and those without facades.

Comparing Nabataean cemetery population percentages of mortality for tombs located within Petra versus tombs located outside Petra might assist in locating possible local burial traditions inside and outside of Petra that correspond with age (refer to Figure 5.18). Tombs located inside and outside of Petra follow similar percentages of mortality for specific age ranges. Both categories percentages are significantly under the model's expected mean for age categories zero to three years and 3 to 12 years. Both categories' percentages are also higher than the model's mean for age categories 12 to 20 years and older.

This chapter discussed the methods used to compare Scheidel's Roman Egypt model life table with Nabataean cemetery population percentages of the likelihood of death at specific age ranges. When making these comparisons, it is evident that in some Nabataean burial sites certain

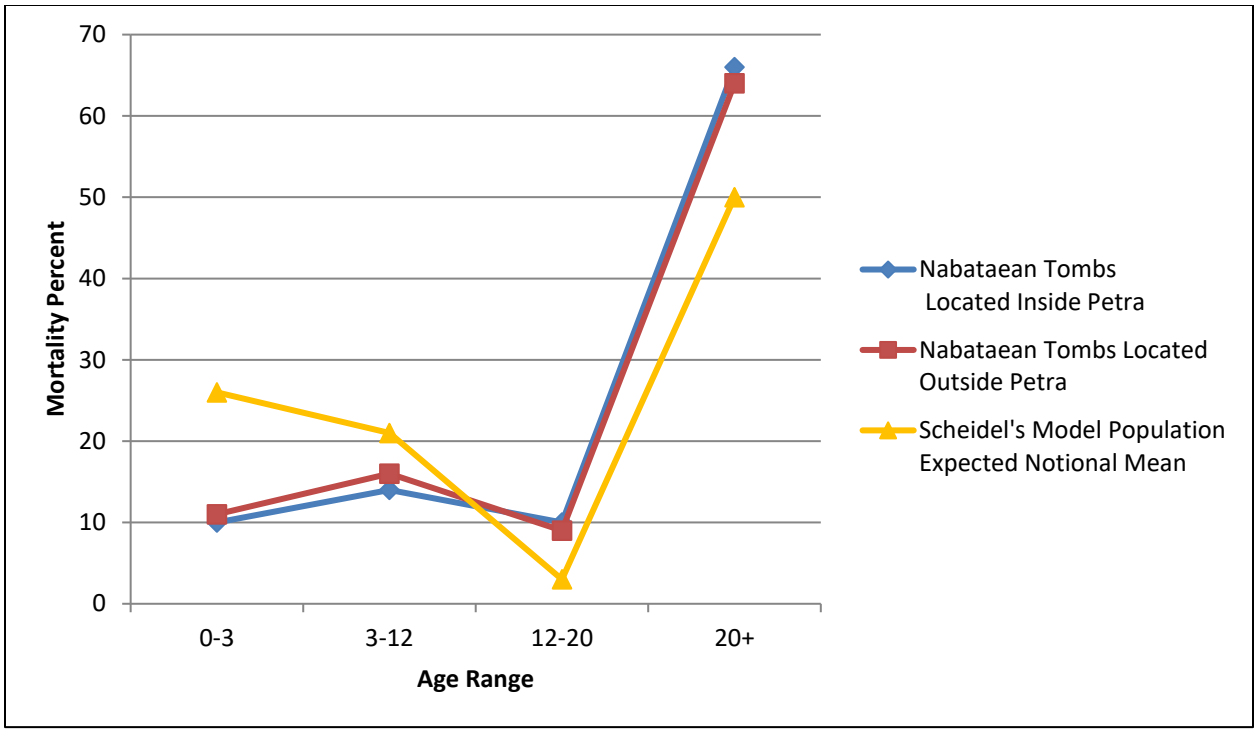

Figure 5.18. Comparison of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Nabataean cemetery populations located within Petra and those located outside Petra.

age ranges are under-represented and some age ranges are over-represented. There are three possibilities that could explain the differences shown in the figures above. First, that Scheidel's model does not accurately reflect Nabataean mortality conditions, and, therefore, is not an accurate representation and should not be used to validate the empirical data from the cemetery populations. Second, environmental conditions affected the preservation of skeletal remains and the collected data is thus skewed. Third, ancient and modern human behaviors have affected the preservation and recovery of skeletal remains and the collected data is skewed. The next chapter determines whether Scheidel's model is a good fit for comparison with Nabatean cemetery populations by comparing it with Palmyrene cemetery populations. There is adequate data from Palmyrene tombs to compare it with the model and since it is culturally comparative with Nabataea it can illuminate the expected mortality percentages of Nabataean cemetery

populations. The other two possibilities for the under-representation of age ranges in the cemetery populations are also discussed further in the next and final chapter.

6 | CONCLUDING REMARKS

Through the process of attempting to answer my research question I have come to the realization that further research and archaeological excavation need to be conducted before it can properly be addressed. My thesis provides only a beginning study on the correlation between Nabataean mortuary practices and specific biological age ranges. With this in mind, the following discussion should be considered the first of many on the subject.

Discussion

The preceding two chapters attempted to find correlations between Nabataean burial practices and biological age of the deceased. Quantitative analysis from Chapter 4 demonstrated that the majority of Nabataean burials consisted of a singular adult or a burial with multiple individuals of various ages. Subadults, individuals under the age of 20 years, were rarely found buried by themselves and seldom with other subadults. Chapter 5 used a model life table as a heuristic device to demonstrate whether or not the percentage of recovered Nabataean skeletal remains fit a model of expected percentages for specific age ranges. In general, the study from the previous chapter illustrates that the 14 Nabataean cemetery populations had two age ranges that were under-represented, but not absent: zero to three years and three to 12 years.

These concluding remarks focus on providing possible reasons why the two age ranges are under the expected percentage at Nabataean burial sites. But, first it needs to be established whether or not Scheidel's model life table accurately reflect a reliable comparison useful in more fully understanding the percentages of Nabataean cemetery populations. In order to determine the validity of Scheidel's model I compare it with nearly complete cemetery populations form

ancient Palmyra, Syria (a city known anciently as Tadmor).[265] Not only did many Nabataeans migrate to Palmyra from Arabia, both cultures "shared a strong tribal heritage enriched over time by direct trade contacts" with various ancient and classical Near Eastern societies.[266] Both cultures were ethnically Arab but used Aramaic as an official language and both were involved in caravan trade, bringing them into contact with both Egyptian and Mesopotamian religious customs and beliefs.[267] Cultures that also share cultural continuity with Nabataea are found in ancient southern Arabia but, unfortunately, there are no adequately documented burial sites dating between the first to third centuries CE from this area.[268]

Palmyrene family tombs are similar in shape and function to Nabataean façade tombs. These tombs are located underground (hypogea), above ground in towers and houses, and above and below in a tower hypogeum combination.[269] Inside the tombs the dead are placed in *loculi* and then sealed with a funerary portrait depicting the deceased.[270] Not only did the tomb's funerary portraits display nuclear families, extended families were also depicted with children and grandchildren between spouses on top of sarcophagi and within group relief carved portraits that acted as *loculi* seal stones.[271] Anna Sadurska and Adnan Bounni describe 392 (grouped in

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[265] Finlayson, "*Mut'a* Marriage in the Roman Near East," 109.

[266] Ibid., 110.

[267] Cynthia Finlayson, "The Obelisk, the Crow-Step, and the Elephant in Nabataean Contexts: The Influences of Eastern Mediterranean Globalization and the Adoption of Cross-Cultural Bridge Symbols at Petra, Jordan," in *Studies on the Nabataean Culture II*, edited by Nabil I. Khairy, 75–104 (Amman: Publications of the Deanship of Academic Research, The University of Jordan), 77.

[268] Richard LeBaron Bowen, Jr. "Burial Monuments of South Arabia," in *Archaeological Discoveries in South Arabia*, edited by Richard LeBaron Bowen, Jr. and Frank P. Albright, pp. 133–138 (Baltimore: The Johns Hopkins Press, 1985).

[269] Iain Browning, *Palmyra* (New Jersey: Noyes Press, 1979), 192.

[270] Browning, *Palmyra*, 192.

[271] Finlayson, "*Mut'a* Marriage in the Roman Near East," 113.

238 catalog numbers) funerary portraits and sculptures from Palmyra.[272] One hundred and eighty two depicted adult males, 130 adult females, 50 subadult males, and three subadult females.[273] The largest of these tombs could contain around 400 skeletal remains.[274] Accompanying these funerary sculptures are inscriptions recording deceased individual's genealogy.[275]

These inscriptions demonstrate that individuals buried inside the same tomb were related, and that their location of burial in relation to other family members emphasizes a specific familial organization where grandmothers, aunts, and uncles acted as protectors and mentors to certain individuals.[276] In these tombs "a child was buried just as frequently next to a grandparent, uncle or aunt, as to a parent or parents."[277] It is likely that a similar familial organization is present inside of Nabataean tombs but a lack of epigraphic evidence leaves this association unverified but likely given their similarity to Palmyrene culture.

Four major necropolis surrounded the city of Palmyra, the Valley of the Tombs, the Southeastern Necropolis, the Southwestern Necropolis, and the Northeastern Necropolis.[278] Excavations of three tombs in the Southeastern Necropolis, Tombs A, C, and F, provide detailed descriptions of recovered skeletal remains.[279] Because of the excellent osteological records from

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[272] Anna Sadurska and Adnan Bounni, *Les Sculptures Funeraires de Palmyre* (Rome: Giorgio Bretschneider Editore, 1994).

[273] Ibid., 11–180.

[274] Browning, *Palmyra*, 193.

[275] Finlayson, "*Mut'a* Marriage in the Roman Near East," 111.

[276] Ibid., 117.

[277] Ibid., 125.

[278] Annette Hojen Sorensen, "Palmyrene Tomb Paintings in Context," in *The World of Palmyra*, edited by Andreas Kropp and Rubina Raja, pp. 103–117 (Denmark, Det Kongelige Danske Videnskabernes Selskab, 2016), 103.

[279] Takayasu Higuchi and Kiyohide Saito, editors, *Tomb F - Tomb of BWLH and BWRP-Southeast Necropolis Palmyra, Syria* (Nara, Japan: Research Center for Silk Roadology, 2001). Takayasu Higuchi and Takura

these tombs I use them as comparative data to determine if Scheidel's model life table accurately reflects both Palmyrene and Nabataean cemetery populations.

These tombs were excavated by a team of archaeologists from various universities in Japan, including Kyoto University and Nara University.[280] Skeletal remains from these tombs are somewhat fragmentary because the floorboards of many *loculi*, which are stacked on top of each other, had fallen to the bottom causing the human remains to become mixed.[281] The excavators attempted to reconstruct the original order of burials. Tomb A contained 19 individuals, Tomb C contained 61 individuals,[282] and Tomb F contained 80 individuals.[283] In total there are 160 individuals recovered from these tombs. Figures 6.1 to 6.3 display the mortality population percentages for Tombs A, C, and F and the mean percentage from Scheidel's model.

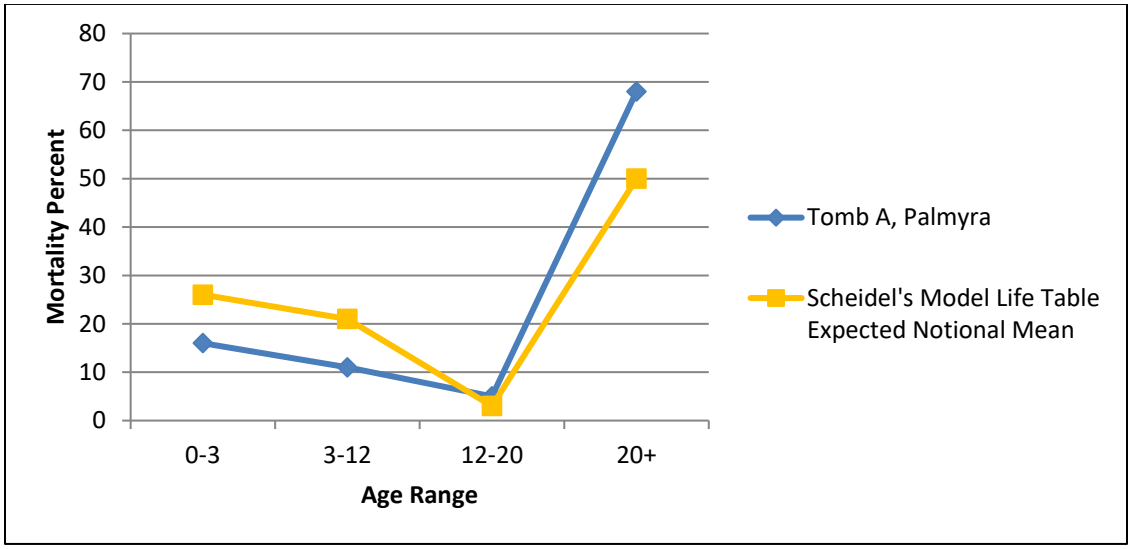

Figure 6.1. Comparisons of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Tomb A.

Izumi, editors, *Tombs A and C: Southeast Necropolis Palmyra, Syria, Surveyed in 1990–92* (Nara, Japan: Research Center for Silk Roadology, 1994).

[280] Higuchi and Izumi, *Tombs A and C* (1994).

[281] Ibid., 108.

[282] Higuchi and Izumi, *Tombs A and C*, 108 and 112.

[283] Higuchi and Saito, *Tomb F*, 150.

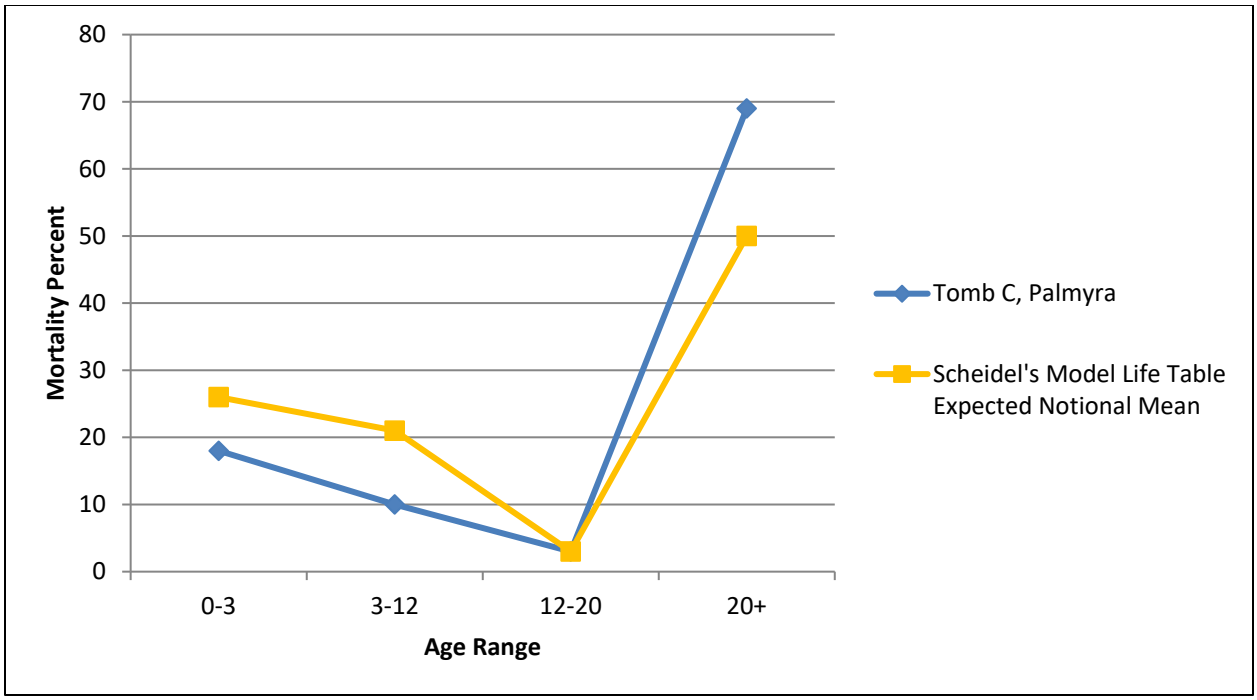

Figure 6.2. Comparisons of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Tomb C.

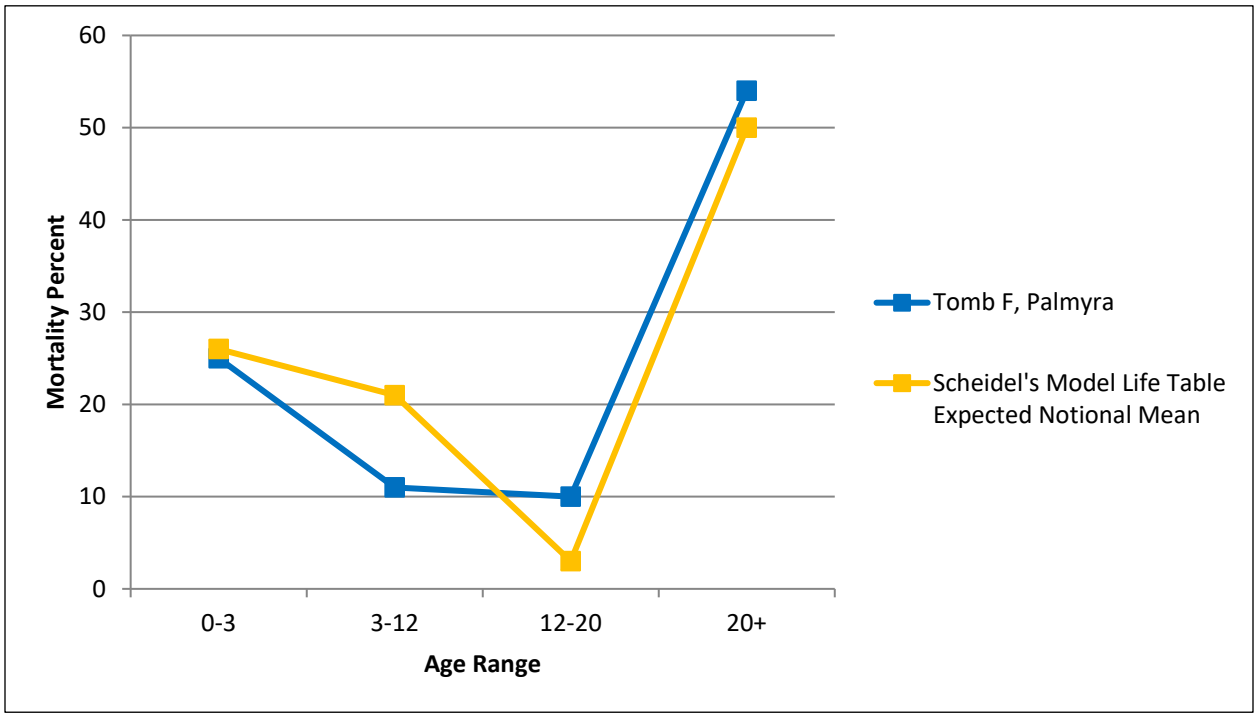

Figure 6.3. Comparisons of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Tomb F.

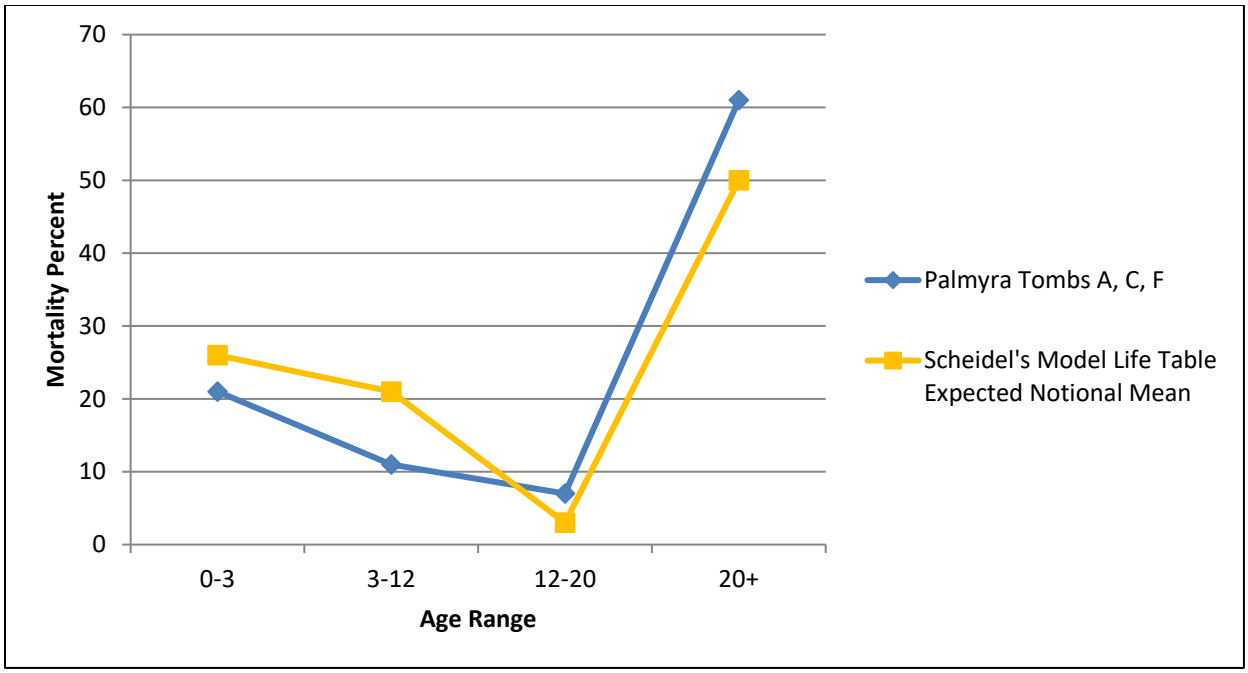

Figure 6.4. Comparisons of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Tombs A, C, and F.

Tombs A and C are slightly under the model's expected lower bound of 26 percent for age range zero to three years and under the expected lower bound of 21 percent for age range three to 12 years. Tomb F meets the model's mean for age range zero to three years, but not for the age range three to 12 years. Combined, Figure 6.4, the Palmyrene tombs are within the model's expected lower bound percentage for age range zero to three years and under the expected lower bound percentage for age range three to 12 years. It is likely that the percentages of individuals in the tombs are lower for the two younger age ranges because of the collapsed bottoms of the *loculi* which likely destroyed the smaller and fragile skeletal remains of young individuals.

It should be noted that when comparing Palmyrene and Nabatean cemetery populations only the elite populations, or individuals of high social and/or economic status in these cultures, can be compared. The Palmyrene tombs are constructed for "aristocratic families of the Tadmor

Oasis" and currently there exists no excavations of rural Palmyrene cemeteries.[284] Figure 6.5 illustrates the comparison of elite Palmyrene and Nabataean cemetery populations. Nabataean façade tombs are eight percent lower in the age range of zero to three years than the Palmyrene tombs and 13 percent lower than the model's mean. There is only a five percent difference between the percentage of individuals in the age range three to 12 years between the Palmyrene tombs and the Nabataean façade tombs. The remaining percentages of age ranges for each population follow a similar line.

These Palmyrene cemetery populations are comparable to the model life table. Since Palmyrene populations share cultural continuity with Nabataean populations I propose that that Scheidel's model life table is also comparable to Nabataean cemetery populations. Relying on the underlying assumption that Scheidel's model life table accurately reflects expected

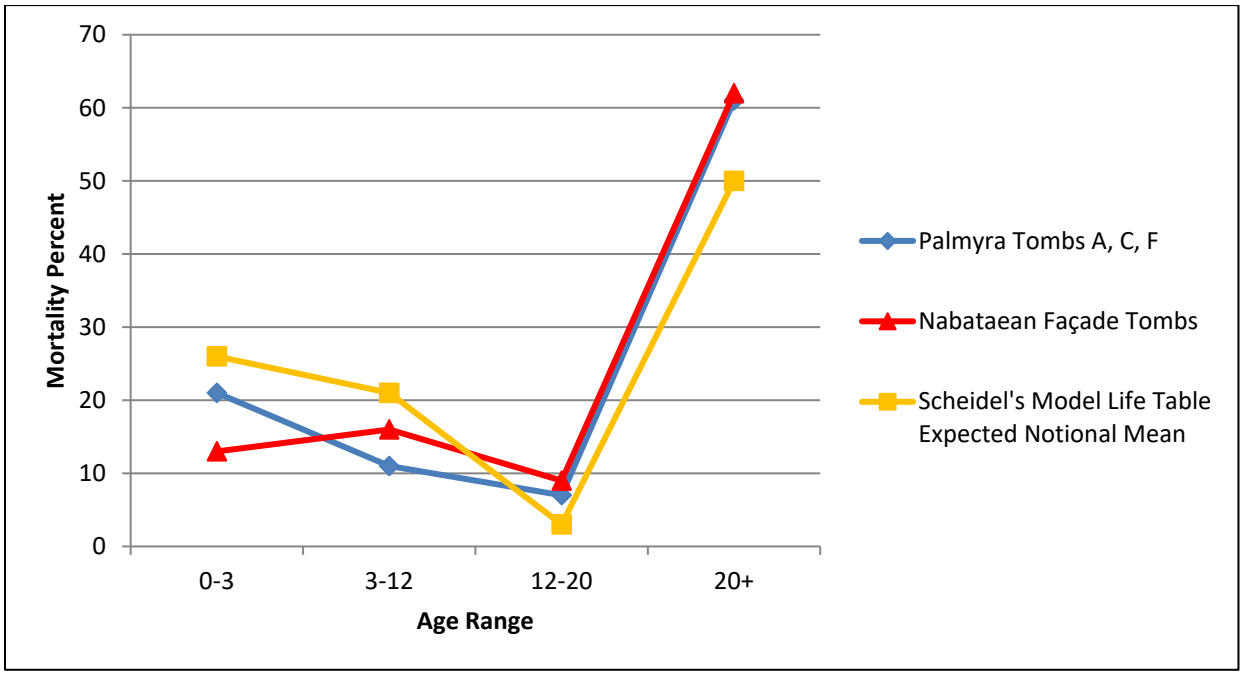

Figure 6.5. Comparisons of the percentage of mortality for specific age ranges between Scheidel's model life table notional mean and Palmyrene Tombs A, C, and F and Nabataean façade tombs.

[284] Finlayson, "*Mut'a* Marriage in the Roman Near East," 100.

Nabataean cemetery populations, the under-representation of age ranges zero to three years and three to 12 years need explanation. Four general hypotheses concerning the 'why' of missing young individuals from cemeteries is currently debated among archaeologists: the decay hypothesis, the differential recovery hypothesis, the differential mortuary processes hypothesis, and separate burial location hypothesis.[285]

All the hypotheses have merit, but the two hypotheses that likely account for the Palmyrene cemetery populations, and that also likely account for the discrepancies in the Nabataean cemetery populations, are the decay hypothesis and the differential recovery hypothesis. The decay hypothesis suggests that infant and child bones are fragile and might not be found in graves because they were destroyed by acidic soil.[286] A study of the soils from Petra and other Nabataean sites would have to be analyzed to determine how strong of a factor acidic soil is in the preservation of bone. The likelihood of bone decay is high for Nabataean skeletal remains because of the Nabataean practice of secondary burial. Many Nabataean burial sites (such as Wadi Mataha Sites 4, 13, 15, and 16, the North Ridge Tombs, Hegra tombs IGN 20, IGN 117, IGN 103 and IGN 88) contain some evidences for secondary burials. This Nabatean cultural practice of handling skeletal remains after the flesh has decayed would significantly affect the preservation of the bones. As well, most burials have been looted in ancient and modern times, contributing also to the destruction of fragile bones.

Poor excavation techniques, the principle behind the differential recovery hypothesis, could also explain the low number of young individuals in Nabataean cemetery populations.[287]

[285] Becker, "Etruscan Infants," 30.

[286] Ibid., 30.

[287] Ibid., 30.

Sometimes excavators are rushed and can easily miss small human bones or mistake them for faunal bones. Also, if the wire mesh screen inside the sifting screen is too wide, small bones could sift through and not be recorded.

In closing, I will reiterate that this thesis study provides the beginnings of future research on the correlation between Nabataean mortuary practices and specific biological age ranges. The quantitative analyses from Chapters 4 and 5 demonstrated that most Nabataean burials typically consisted of a singular adult or a burial with multiple individuals of various age ranges. Subadults, individuals under the age of 20 years, were rarely found buried by themselves and seldom with other subadults. Scheidel's model life table, combined with Palmyra cemetery populations as a relational analogy, demonstrated that the percentages of Nabataean skeletal remains recovered were indicative of an expected complete cemetery population and the slight discrepancies in the age ranges of zero to 12 years is likely due to decay and destruction of skeletal remains and poor excavation techniques.

Review of Research Objectives and Conclusions

Originally this thesis sought to determine whether Nabataean infant burials were absent or under-represented in Nabataean cemeteries. While age ranges zero to 12 years are under-represented in Nabataean cemetery populations it was not due to assimilated Roman burial practices or the practice of not burying individuals until they reached a specific biological age as suggested by Khairieh 'Amr, and Ahmend al-Momani and Stephen Schmid's site reports. [288] Instead, the discrepancy of lower percentages for these age ranges in Nabataean cemetery populations was likely due to decay and destruction of bone and poor excavation techniques.

[288] 'Amr and al-Momani, "Preliminary Report," 253–285 and Schmid, "Nabataean Funerary Complexes," 139.

This is collaborated by a comparison of Palmyrene cemetery populations which have higher recovery percentages for these age ranges.

Future Research

Perhaps an ironic outcome of most research is a realization of pending problems and ways that those problems might have been addressed if one had the insights that come after conducting the research. I conclude with possible research topics that would further this research with the hope that others may begin where I left off.

Research into Nabataean infant and child burials, as well as general Nabataean mortuary practices, has room for expansion. Specifically, Nabataean burial sites with no subadults were not included in this study and they probably should have been. Obviously, their inclusion would likely change the results of the analyses of this thesis.

This thesis did not investigate the differences in burial practices during different time periods. Many of the cemeteries explored here were used for several centuries by the Nabataeans. Researching differences in burial practices during different time periods would allow greater insight into Nabataean mortuary practices over time, and the potential of changes in age specific burial practices. That study would also help to expand our knowledge of social or economic changes in the Nabataean kingdom.[289] Such a study would require more and better excavations of Nabataean burials from multiple economic social status graves and tombs.

Exploring differences in burial practices according to region in the Nabataean kingdom is another area that could be researched. This thesis looked for general burial patterns across the whole Nabataean kingdom and did not account for changes by region (i.e., Transjordan, the Hauran, and northern Saudi Arabia). Such a study might provide insight into Nabataean

[289] Wadeson, "Nabataean Façade Tombs," (2011) did a similar study with Hegra tombs.

mortuary practices separate from Petra, and could possibly identify foreign influences in Nabataean burials.

This study could also be expanded to discuss aspects of Nabataean childhood. It would be interesting to observe if there are any cultural material remains that children might have made or participated in making. This study would be able to take a further look into what it meant to become Nabataean.

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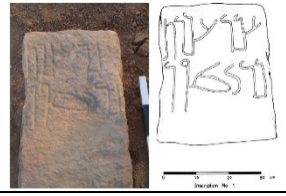
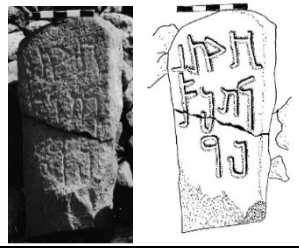
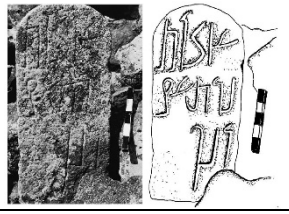
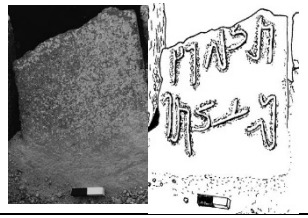
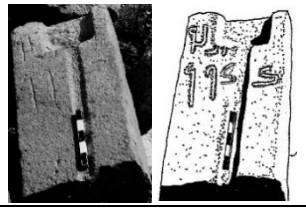
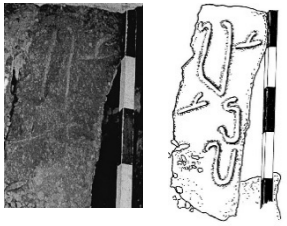
APPENDIX I

Nabataean Funerary Inscriptions

Nabataean Inscriptions: Umm el-Jimal

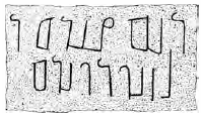
#	Inscription Location	Date	Inscription Type	Image	Inscription Transliteration	Inscription Translation (emphasis added)	Terms	Publication
1	Umm el-Jimal	first half of 2nd cen	Tombstone		*'bd 'bdt br ytwr*	‘Abd ‘Abdat, the **son** of Yatūr	son - *br*	Khairy and Jbour 2012: 185
2	Umm el-Jimal Cemetery (Northern Section)	first half of 2nd cen	Tombstone		*'qrb brt Hwrw*	‘Aqrab **daughter** of Hūr	daughter - *brt*	Khairy and Jbour 2012: 187
3	Umm el-Jimal	first half of 2nd cen	Tombstone		*ʾ mrw br nbyt šlm*	’Amr **son** of Nbyt, peace	son - *br*	Khairy and Jbour 2012: 189
4	Umm el-Jimal	reign of Rabel II (70-106 C.E.)	Lintel for Tomb		*[d]' nps' dy bnh shymw [ ] [br]' brh b'lh 'bwhm [ ] [..l]rb'l mlk' mlk nbt[w] ...*	[Th]is is the tomb which SHYMW … built … (2) … [for P]N, his **son**, through (the help of) the god of their **father** … (3) … king Rabel, king of the Nabataeans …	son - *br* father - *'b*	Butts and Hardy 2010: 385 Said and al-Hamad 2003: 30
5	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*hgt b-rt ks-mw*	Hagat, **daughter** of Kasm	daughter - *brt*	Garf 2006: 270

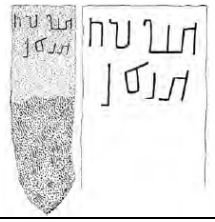
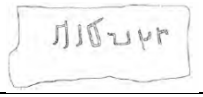
#	Inscription Location	Date	Inscription Type	Image	Inscription Transliteration	Inscription Translation (emphasis added)	Terms	Publication
6	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*'zyrtbrr '-rbw*	Azirat **daughter** of 'Aqrab	daughter - *brt*	Garf 2006: 271
7	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*w'lw br s'nw*	Wa'il **son** of Sa'n	son - *br*	Garf 2006: 273
8	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*tymw br m'ytw*	Taim **son** of Mughit	son - *br*	Garf 2006: 274
9	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*syrt brt hy-rw*	Asirat **daughter** of Hayr	daughter - *brt*	Garf 2006: 274
10	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*ytwr br mhlm-w*	Yatur **son** of Muhallim	son - *br*	Garf 2006: 276

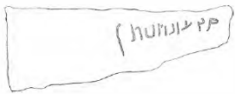
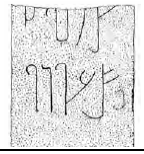
#	Inscription Location	Date	Inscription Type	Image	Inscription Transliteration	Inscription Translation (emphasis added)	Terms	Publication
11	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*[...] br ytwr*	[…] **son** of Yatur	son - *br*	Garf 2006: 278
12	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*[hy]rw br ytrw*	Hair **son** of Yatur	son - *br*	Garf 2006: 278
13	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*mlk[w] br rm-ymw*	Malik **son** of Ramaima	son - *br*	Garf 2006: 278
14	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*srt br brb-yr*	Sarrat **son** of Babayr	son - *br*	Garf 2006: 279
15	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*'bd[w br] m'[y]-nw*	'Abd **[son** of] Ma'[ya]na	son - *br*	Garf 2006: 280

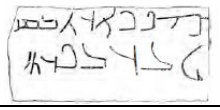
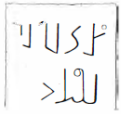
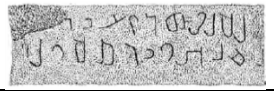
#	Inscription Location	Date	Inscription Type	Image	Inscription Transliteration	Inscription Translation (emphasis added)	Terms	Publication
16	Umm el-Jimal	1st cen C.E.	Funerary Inscription		*'l' br h-nynw*	'Ala **son** of Hunayn	son - *br*	Garf 2006: 281

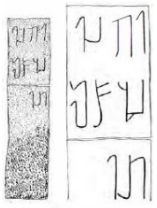
Nabataean Inscriptions: Syria

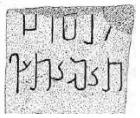
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
1	Southern Huran Koser il-Hallabat	33 B.C.E to 124 C.E.	Funerary Inscription		This is the tomb which was built by N. N. for Zabid, his **son**	son - *br*	Littmann 1913: 1
2	Umm is-Surab	33 B.C.E to 124 C.E.	Stele		'Aqrab, **son** of Nasl	son - *br*	Littmann 1913: 6
3	il-Bezayiz	33 B.C.E to 124 C.E.	Stele		'Amat-allat, the **daugher** of 'Absar(?, 'Asad?)	daughter - *brh*	Littmann 1913: 7
4	Sebsebeh	33 B.C.E to 124 C.E.	Stele		'Adhr, **son** of Re'u (or Mau)	son - *br*	Littmann 1913: 8
5	is-Summakiyat	33 B.C.E to 124 C.E.	Stele		Ram'el, **son** of 'Aus	son - *br*	Littmann 1913: 9

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
6	is-Summakiyat	33 B.C.E to 124 C.E.	Stele		Mun'at, **son** of Malikat	son - *br*	Littmann 1913: 9
7	is-Summakiyat	33 B.C.E to 124 C.E.	Stele(?)		Huraib(?), **son** of Rabbwadd(?)	son - *br*	Littmann 1913: 10
8	is-Summakiyat	33 B.C.E to 124 C.E.	Stele		Hubb, **daughter** of Hann'el	daughter - *brt*	Littmann 1913: 11
9	is-Summakiyat	33 B.C.E to 124 C.E.	Stele		greek with Nab name - relook at		Littmann 1913: 12
10	Kom ir-Ruff	33 B.C.E to 124 C.E.	scratched on boulder by tomb		The tomb of 'Alih, **son** of 'Udhainat	son - *br*	Littmann 1913: 15
11	Kom ir-Ruff	33 B.C.E to 124 C.E.	scratched on boulder by tomb		The tomb of the **son** of 'Alih	son - *br*	Littmann 1913: 15

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
12	Kom ir-Ruff	33 B.C.E to 124 C.E.	scratched on boulder by tomb		The tomb of Ghazalat(?), his **daughter**	daughter - *brth (?)*	Littmann 1913: 15
13	Subhiyeh	33 B.C.E to 124 C.E.	Stele		Malikat, **daughter** of M[aiya]s(?)	daughter - *brt*	Littmann 1913: 17
14	Sabhah	33 B.C.E to 124 C.E.	Stele		Witr, **son** of Khalaf	son - *br*	Littmann 1913: 18
15	Sabhah	33 B.C.E to 124 C.E.	Stele		La'mat, **daughter** of Sa'd-allahi	daughter - *brt*	Littmann 1913: 19
16	Sabhah	33 B.C.E to 124 C.E.	Stele		Husn, **daughter** of 'I-yas	daughter - *brt*	Littmann 1913: 20
17	Sabhah	33 B.C.E to 124 C.E.	Stele		Ra'ifat (Ru'aifat), **daughter** of Ma-ghar (?)	daughter - *brt*	Littmann 1913: 20
18	Salkhad	33 B.C.E to 124 C.E.	Stele		Karib, **son** of Sa'ud	son - *br*	Littmann 1913: 23

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
19	Salkhad	33 B.C.E to 124 C.E.	Stele		'Amr, **son** of 'Obai-shat	son - *br*	Littmann 1913: 24
20	Sammeh	33 B.C.E to 124 C.E.	Stele		'Akrab, **daughter** of Ghauth	daughter - *brt*	Littmann 1913: 30
21	Umm il-Kutten	33 B.C.E to 124 C.E.	Funerary Inscription		This is the tomb(?) of Komar-a, **son**(?) of Kasdi	son - *br*	Littmann 1913: 31
22	Umm il-Kutten	33 B.C.E to 124 C.E.	Stele		'U'aitil, **son** of Fatn (Fatal)	son - *br*	Littmann 1913: 32
23	Umm il-Kutten	33 B.C.E to 124 C.E.	Stele		'Ukhaiy, **son** of Harb	son - *br*	Littmann 1913: 33
24	Tell Ko'es	33 B.C.E to 124 C.E.	Stele		Shaib, **son** of Nafail (?)	son - *br*	Littmann 1913: 33
25	Umm idj-Djimal	33 B.C.E to 124 C.E.	Lintel of Tomb		This is the tomb which was made [by N.N. **son** of N.N.] for Milh, his **daughter**, and for…	daughter - *brth*	Littmann 1913: 36
26	Umm idj-Djimal	first half of 2nd cen	Lintel of Tomb		This is the tomb of 'An'am, **son** of Hur, and of Uzzai, his **wife**, which was built by Hann-'el, their **son**	son - *br* wife - *'nth*	Littmann 1913: 36

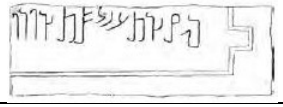
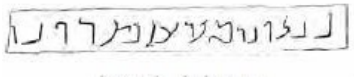
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
27	Umm idj-Djimal	ca. 250 C.E.	Tomb		This is the tomb of Fihr, **son** of Shullai, the tutor of Gadhimat, the king of Tanukh	son - *br*	Littmann 1913: 37-38
28	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Wahb-allahi, **son** of Mun'im, of the **tribe of Salam**	son - *br*	Littmann 1913: 42
29	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Masik, **son** of Zabud	son - *br*	Littmann 1913: 45
30	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Malikat, **son** of 'Ak-rab	son - *br*	Littmann 1913: 45
31	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Wahb, **son** of Sah-mit	son - *br*	Littmann 1913: 45
32	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Zabud, **son** of Wahb	son - *br*	Littmann 1913: 46

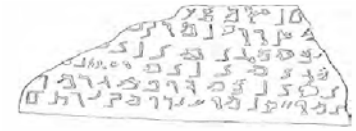
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
33	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Milh, **daughter** of Masik	daughter - *brt*	Littmann 1913: 47
34	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Tub, **son** of Raswat	son - *br*	Littmann 1913: 47
35	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Hani, **son** of Taim-Yitha'	son - *br*	Littmann 1913: 48
36	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Khair, **son** of Raswat, **son** of Yatur	son - *br*	Littmann 1913: 48
37	Umm idj-Djimal	33 B.C.E to 124 C.E.	Stele		Harith(?), **son** of Kahil	son - *br*	Littmann 1913: 49
38	Umm idj-Djimal	34 B.C.E to 124 C.E.	Stele		Hannai, **son** of Malik	son - *br*	Littmann 1913: 50
39	Umm idj-Djimal	34 B.C.E to 124 C.E.	Stele		Zabud, **son** of Muhlim	son - *br*	Littmann 1913: 51
40	Umm idj-Djimal	34 B.C.E to 124 C.E.	Stele		Atr, **daughter** of Washi-kat	son - *br*	Littmann 1913: 51

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
41	Umm idj-Djimal	34 B.C.E to 124 C.E.	Stele		Zabud, **son** of Gur(u)f	son - *br*	Littmann 1913: 52
42	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Tomb of Zabud, **son** of Shamit	son - *br*	Littmann 1913: 52
43	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Zabud, **son** of Masik	son - *br*	Littmann 1913: 52
44	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Masik, **son** of Zabud	son - *br*	Littmann 1913: 52
45	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Milh, **daughter** of Masik	daughter - *brt*	Littmann 1913: 52
46	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Yatur, **son** of Masik	son - *br*	Littmann 1913: 53-54
47	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		'Asnum, **daughter** of Ya-tur	daughter - *brt*	Littmann 1913: 53-54
48	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Shamit, **son** of Zabud	son - *br*	Littmann 1913: 53-54

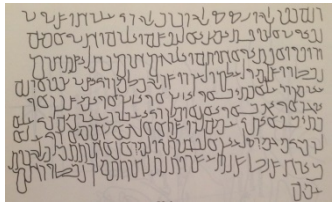
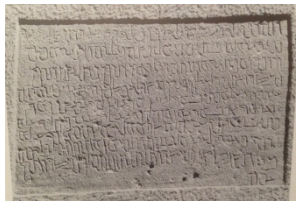
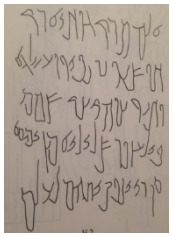
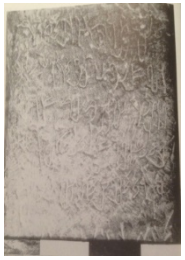
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
49	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Washikat, **son** of Zabud	son - *br*	Littmann 1913: 53-54
50	Umm idj-Djimal	1st to 2nd cen C.E.	Stele		Khald, **daughter** of Garm	daughter - *brt*	Littmann 1913: 56
51	Bosra	1st to 2nd cen C.E.	Stele		Abd-Isis (or: 'Asab?), **son** of Garm	son - *br*	Littmann 1913: 60
52	Bosra	1st to 2nd cen C.E.	Stele		Sa'd-al- lahi, **son** of Ghauth	son - *br*	Littmann 1913: 61
53	Bosra	1st to 2nd cen C.E.	Stele		['Am-] at-allat, the **daughter** of	daughter - *brt*	Littmann 1913: 61
54	Bosra	1st to 2nd cen C.E.	Stele		Leon, **son** of Ghanim (?)	son - *br*	Littmann 1913: 61
55	Bosra	1st to 2nd cen C.E.	Stele		'Amay- al-Ga', **daughter** of 'Abd-'Oman	daughter - *brt*	Littmann 1913: 62
56	Bosra	1st to 2nd cen C.E.	Stele		Susannat, **daughter** of Su-aid	daughter - *brt*	Littmann 1913: 63

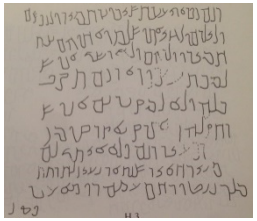
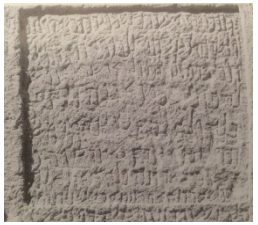
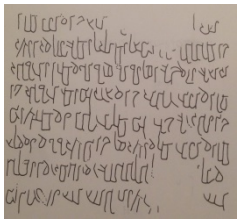
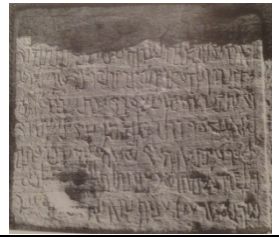
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
57	Bosra	1st to 2nd cen C.E.	Stele		Tamanni-yat, **daughter** of Wa'il	daughter - *brt*	Littmann 1913: 64
58	Bosra	1st to 2nd cen C.E.	Stele		['Amat-al]lat, **daughter** of …., the] *wife* of 'Ab-[d, son of 'A]bd-O-[bodat]	daughter - *brt*	Littmann 1913: 64
59	Bosra	1st to 2nd cen C.E.	Stele		'Ailami(?), **son** of Nasl	son - *br*	Littmann 1913: 65
60	Bosra	1st to 2nd cen C.E.	Stele		Husn, **daughter** of 'Adhr	daughter - *brt*	Littmann 1913: 65
61	Bosra	1st to 2nd cen C.E.	Stele		Mari'at, **daughter** of Masik	daughter - *brt*	Littmann 1913: 66
62	Bosra	1st to 2nd cen C.E.	Stele		Bakr, **son** of Hani	son - *br*	Littmann 1913: 66
63	Bosra	1st to 2nd cen C.E.	Stele		'Athint, **son** of Ramak(?)	son - *br*	Littmann 1913: 66

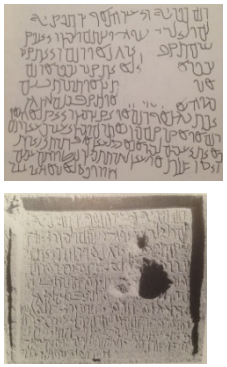
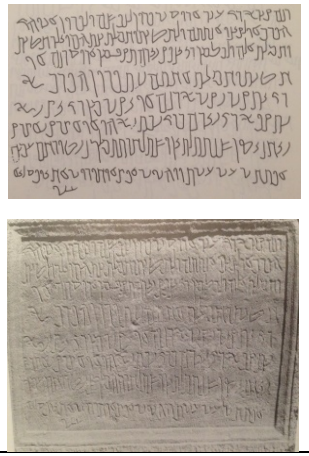
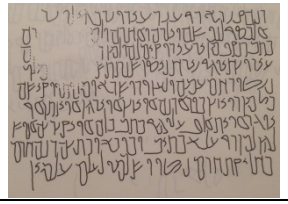
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
64	Bosra	1st to 2nd cen C.E.	Stele		'Amr, **son** of Hani	son - *br*	Littmann 1913: 67
65	Bosra	1st to 2nd cen C.E.	Stele		Habbat, **daugther** of Masadat	daughter - *brt*	Littmann 1913: 67
66	il-Muarribeh	1st to 2nd cen C.E.	Stele		Huffal(?), **son** of Taim	son - *br*	Littmann 1913: 69
67	Kharaba	1st to 2nd cen C.E.	Lintel of Tomb		Tomb of 'Obaishat, **son** of Wadd	son - *br*	Littmann 1913: 69
68	Djemarrin	1st to 2nd cen C.E.	Stele(?)		'Abd(?), **son** of 'Abd-Rabb-el	son - *br*	Littmann 1913: 70
69	Melah is-Sarrar	1st to 2nd cen C.E.	Lintel (?)		[This is the tomb which] was made and built by Bunaiy, **son** of Maida, for Nasr, his **son**	son - *br*	Littmann 1913: 74
70	Melah is-Sarrar	1st to 2nd cen C.E.	Stele		Ghauth-el, **son** of Nahu(?)	son - *br*	Littmann 1913: 75

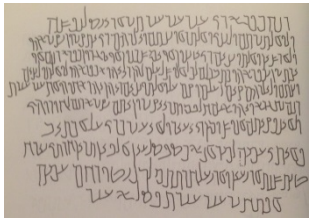
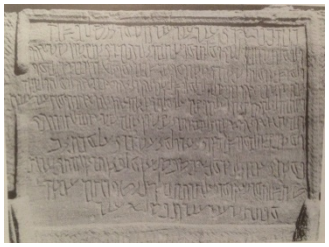
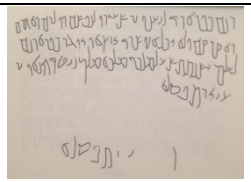
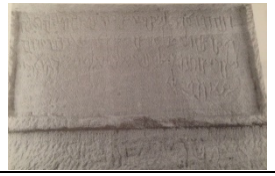
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
71	Si'	1st to 2nd cen C.E.	Lintel of a Tomb		For Thanin, **son** of Hann-el, [is] the monument. Hur, son of 'Obaishat, [was] the artist	son - *br*	Littmann 1913: 84
72	Si'	1st to 2nd cen C.E.	Lintel of a Tomb(?)		…el, son of Mush'I, Shakar-el Marcus Bassus(?), Gaius Julius us(?), Gaius Julius Thanin(?) Gaius Julius Rufus Garm, 'Asim(?), **son** of Salm, made the tomb	son - *br*	Littmann 1913: 85

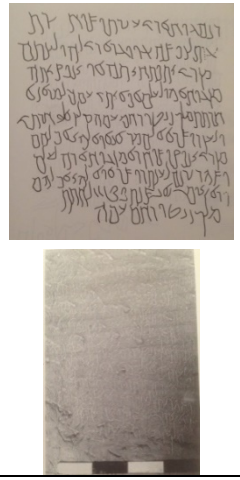
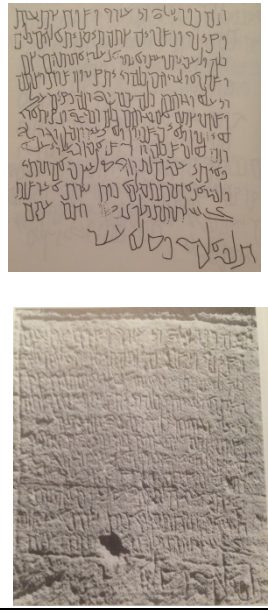
Nabataean Inscriptions: Hegra

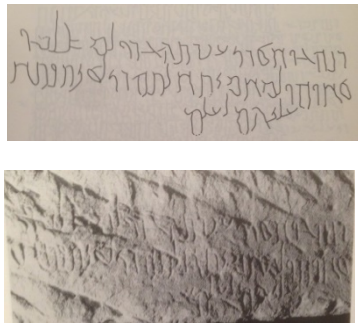
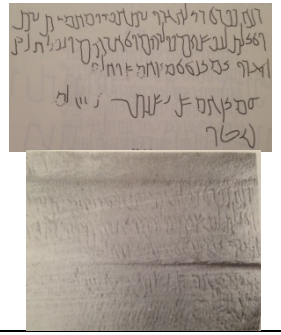
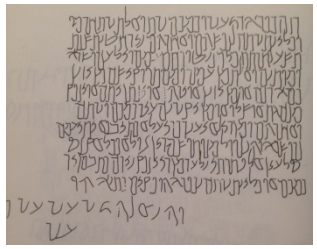
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 1	Hegra A 3/IGN 9 façade	4/5 C.E.	Funerary Inscription	 	This is the tomb and platform and enclosure which Hawshabu **son** of Nafiyu **son** of Alkuf, the **Taymanite**, made for himself and his **children** and Habbu, his **mother**, and Rufu and Aftiyu, his **sisters**, and their **children**: inviolable according to the nature of inviolability among the Nabateans and Salaminans for ever. And may Dushara curse anybody who buries in this tomb except those inscribed above, or sells it, or buys it, or gives it in pledge, or leases it, or makes a gift of it, or disposes of it(?). And whoever does other than what is written above shall be liable to the god Dushara regarding the inviolability referred to above, for the full price of a thousand Haretite sela's, and to our lord King Haretat for the same amount. In the month of Shebat, the thirteenth year of Haretat, King of the Nabataeans, lover of his people.	son - *br* from Tayma - *twb* children (collective noun) - *yld* mother - *'m* sisters - *'hwth*	Healey 1993: 68
H 2	Hegra A 3/IGN 9 interior	4/5 C.E.	Funerary Inscription	 	These are the two burial-niches of Hawshabu **son** of Nafiyu and 'Abdalga and Habbu, his **children**, Sahmites. And may he who separates night from day curse whoever removes them forever.	son - *br* children - *bny*	Healey 1993: 81

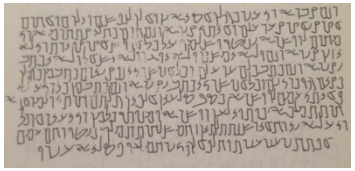
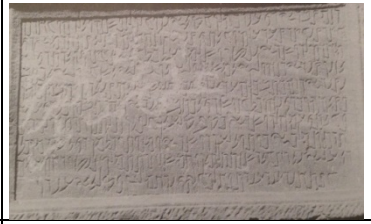
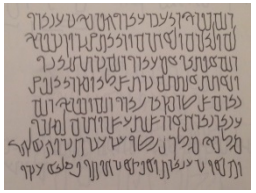
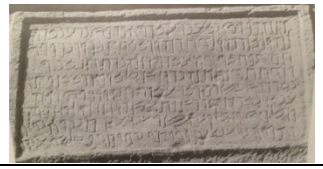
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 3	Hegra A 5/IGN 11 façade	31/32 C.E.	Funerary Inscription	 	This is the tomb which Husayku **son** of Humaydu made for himself and for his **children** and for Guzay'at and Salamu, his **sisters**, **daughters** of Humaydu, and for their **children**. And no-one has the right to write for this tomb any deed of entitlement or to buy in it any **non-relative** - other than by **hereditary** title. And whoever does other than this will have no valid portion. In the month of Iyyar, the fortieth year of Haretat, King of the Nabataeans, lover of his people. Ruma and 'Abd'obodat, the masons.	son - *br* sister - *'ht* man/person/anyone - *'nws* daughters - *bnt* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq* alien/unrelated/having renounced claim - *rhq* having the right/authorized - *rsy*	Healey 1993: 86
H 4	Hegra A 8/IGN 12 façade	42/43 C.E.	Funerary Inscription	 	This is the tomb which Shubaytu **son** of 'Ali'u, the **Jew**, made for himself and for his **children** and for 'Amirat, his **wife**. They may be buried in it by **hereditary** title. And no stranger (?) has the right to be buried in it, and if any of the children of Shubaytu mentioned above or their **legal heirs** seeks to write for this tomb a deed of gift or any document, he will have no share in this tomb. And this was on the first day of Ab, the third year of King Maliku, King of the Nabataeans. 'Abd'obodat son of Wahballahi....made (it).	man/person/anyone - *'nws* wife - *'nth* son - *br* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq* having the right/authorized - *rsy*	Healey 1993: 95

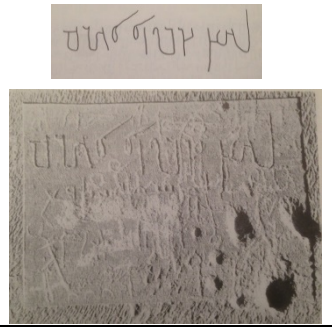
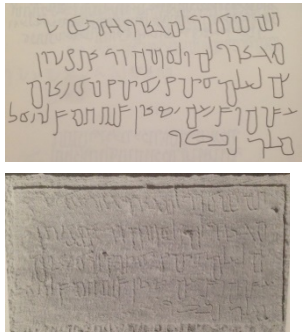
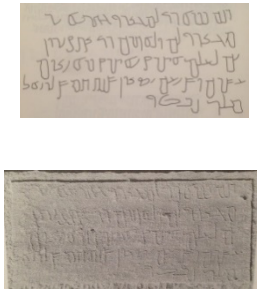
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 5	Hegra B 1/IGN 17 façade	31/32 C.E.	Funerary Inscription		This is the tomb which Hani'u **son** of Tafsa made for himself and for his **children**, his **sons** and his **daughters**, and for whoever produces in his hand a deed of entitlement from the hand of this Hani'u to the effect that he may be buried in this tomb. And let no stranger (?) be buried in this tomb and let it not be sold nor any deed of gift or lease or deed of entitlement be drawn up, other than if this Hani'u writes it or this Hani'u or his **legitimate heir** after him buries in it whoever he wishes. And if anyone does other than this, he shall be liable to our lord in the sum of a thousand Haretite sela's. In the month of Nisan, the fortieth year of Haretat, King of the Nabataeans, lover of his people. Huru the mason, son of Uhayu, made it.	man/person/anyone - *'nws* son - *br* daughters - *bnt* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 101
H 7	Hegra B 5/IGN 21 façade	27/28 C.E.	Funerary Inscription		This is the tomb which Arus **son** of Farwan made for himself and for Farwan, his **father**, the **perfect**, and for Qaynu, his **wife**, and for Hatibat and Hamilat, their **daughters**, and the **children** of the same Hatibat and Hamilat, and for anyone who produces in his hand a deed of entitlement from this same Arus or Hatibat or Hamilat, his **sisters**, **daughters** of Farwan the **perfect**, to the effect that he may be buried in this tomb or may bury (in it) whoever he wishes by virtue of the deed of **entitlement** which is in his hand, in accordance with what is in this document or by hereditary title. In the month of Nisan, the thirty-sixth year of Haretat, King of the Nabataeans, lover of his people. Aftah **son** of 'Abd'obodat and Wahbu **son** of Afsa and Huru, the **masons**, made it.	father - *'b* sister - *'ht* wife - *'nth* son - *br* daughters - *bnt* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 110
H 8	Hegra B 6/IGN 22 façade	1 B.C.E. /C.E.	Funerary Inscription		This is the tomb which 'Aydu **son** of Kuhaylu **son** of Alkasi made for himself and his **children** and his **descendants** and for who (ever produces in his h) and a deed of entitlement from the hand of 'Aydu, valid for him, and for whoe (ver 'Aydu during his lifetime grants permission to bury in) it. In the month of Nisan, the nin (th year of Haretat), King of the Nabataeans, lover of his people. And may Dushara and Manotu and her Qaysha curse anyone who sells this tomb or buys it or gives it in pledge or makes a	descendants (collective) - *'hr* man/person/anyone - *'nws* son - *br* children (collective noun) - *yld*	Healey 1993: 115

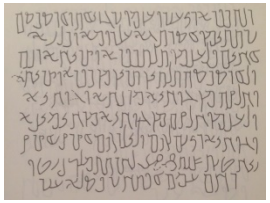
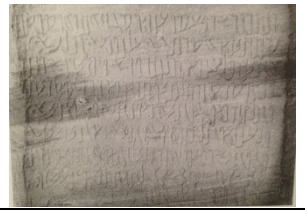
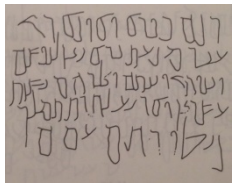
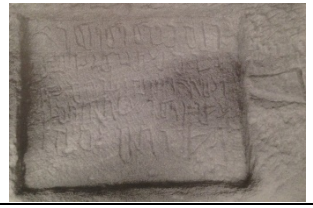
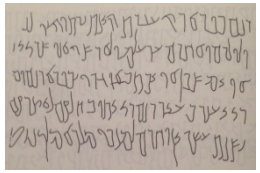
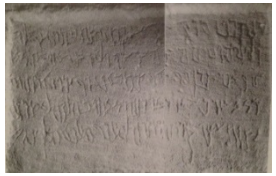
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
					gift of it or leases it or draws up for himself any document concerning it or buries in it anyone apart from those inscribed above. And the tomb and this its inscription are inviolable according to the nature of inviolability among the Nabataeans and Salamians for ever and ever.		
H 9	Hegra B 7/IGN 24 façade	35/36 C.E.	Funerary Inscription	 	This is the tomb which 'Abd'obodat **son** or Aribos made for himself and for Wa'ilat, his **daughter**, and for the **sons** of this Wa'ilat and her **daughters** and their **children**, that they might be buried in this tomb. And Wa'ilat and her **sons** will not have the right to sell or give in pledge or lease this tomb or to write for this tomb any document for anyone for ever. But this tomb will be a possession in perpetuity for Wa'ilat and for her **sons** and her **daughters** and for their **children**. And it is incumbent on Wa'ilat and her **sons** that if Huru, the **brother** of this 'Abd'obodat, should be in Hegra and the change of death should befall him, they should bury him in this tomb, him alone, and no-one shall remove him. And whoever alters or does not do according to what is written above shall be liable to our lord in the sum of two thousand Haretite sela's. In the month of Tebet, the forty-fourth year of Haretat, King of the Nabataeans, lover of his people. Aftah son of 'Abd'obodat, the mason, made it.	brother - *'h* man/person/anyone - *'nws* son - *br* daughters - *bnt* children (collective noun) - *yld* having the right/authorized/empowered - *rsy*	Healey 1993: 123
H 10	Hegra B 9/IGN 27 façade	48/49 C.E.	Funerary Inscription	 	This is the tomb which belongs to Ba'anu **son** of Su'aydu, to him and his **children** and his **descendants** and his **legal heirs**. And no one shall be able to sell or lease this tomb for ever. In the ninth year of King Maliku, King of the Nabataeans. Hani'u **son** of 'Ubaydat, the **mason**. (Hani'u **son** of) 'Ubaydat, the mason.	descendants (collective) - *'hr* man/person/anyone - *'nws* son - *br* children (collective noun) - *wld* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 128

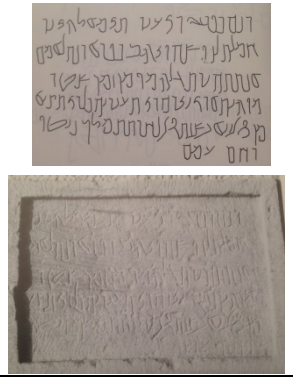
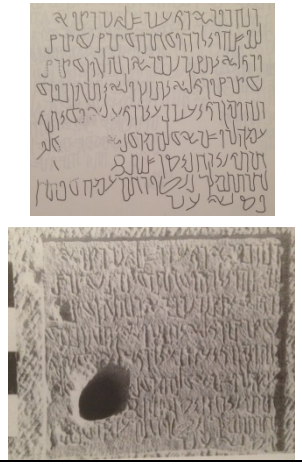
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 11	Hegra B 10/IGN 29 interior	34/35 C.E.	Funerary Inscription		This is the burial-niche which Wushuh **daughter** of Bagrat made from herself within the rock-tomb belonging to her and her **daughters**. Whoever opens it for himself or removes her from this burial-niche for ever shall be liable to our lord Haretat, King of the Nabataeans, lover of his people, in the sum of a thousand Haretitle sela's. And may Dushara, the god of our lord, and all the gods curse whoever removes this Wushuh from this burial-niche for ever. And may the curse of Dushara and all the gods bear witness to this. And this was on the 10th day of Ab, the 43rd year of Haretat, King of the Nabateans, lover of his people.	daughter - *brh* daughters - *bnt*	Healey 1993: 131
H 12	Hegra B 10/IGN 29 façade	34/35 C.E.	Funerary Inscription		This is the tomb which Wushuh **daughter** of Bagrat and Quaynu and Nashkuya, her **daughters**, **Taymanites**, made for themselves, each one, and for 'Amirat and 'Usra'nat and Al'alat, their **sisters**, **daughters** of this Wushuh, and for those under their protection, everyone, that Wushuh and her **daughters** mentioned above and all those under their protection might be buried in this tomb. And it is incumbent on Wushuh and these **daughters** of hers and all those under their protection, male and female, not to sell or give in pledge or alter anything of this rock-tomb for (in favor of ?) anyone. And whoever changes anything of what is on what is above will be liable to Tadhay(?) in the sum of a hundred Haretitle sela's and to our lord King Haretat for the same amount. In the month of Iyyar, the 43rd year of Haretat, King of the Nabataeans, lover of his people. Halafallahi, the **mason**, made it.	sister - *'ht* man/person/anyone - *'nws* daughter - *brh* daughters - *bnt* from Tayma - *twb*	Healey 1993: 137

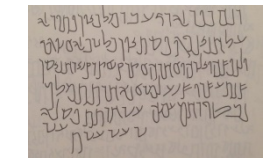
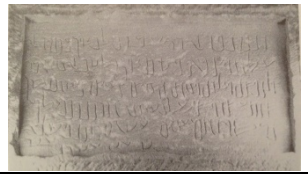
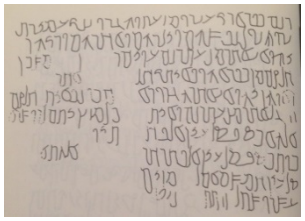
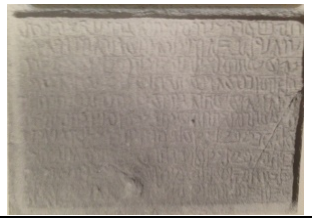
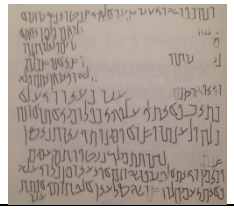
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 13	Hegra B 11/IGN 30 interior	57/58 C.E.	Funerary Inscription		This is the burial-niche which Hagaru made for Maslamu, her **brother**, and for Mahmiyyat, her **aunt.** Let it not be opened over them for ever.	brother - *'h* maternal aunt - *hlt*	Healey 1993: 144
H 14	Hegra B 11/IGN 30 façade	57/58 C.E.	Funerary Inscription		This is the tomb belonging to Hagaru **daughter** of Hafi and Mahmiyyat **daughter** of Wa'ilat, for themselves and their **children** and their **descendants**. And the share of Hagaru has been allotted to the right five cubits and the shar of (Mahmiyyat to the left) five cubits. In the 18th year of King Maliku, (King of) the Nabataeans.	descendants (collective) - *'hr* daughter - *brh* children (collective noun) - *wld*	Healey 1993: 147
H 16	Hegra B 19/IGN 39 façade	1 B.C.E. /C.E.	Funerary Inscription	 	This is the tomb which Kamkam **daughter** of Wa'ilat **daughter** of Haramu and Kulaybat, her **daughter**, made for themselves and their **descendants**. In the month of Tebet, the ninth year of Haretat, King of the Nabataeans, lover of his people. And may Dushara and his throne and Allat of 'Amnad and Manotu and her Qaysha curse anyone who sells this tomb or who buys it or gives it in pledge or makes a gift of it or removes from it body or limb or who buries in it anyone other than Kamkam and her **daughter** and their **descendants**. And whoever does not act according to what is written above shall be liable to Dushara and Hubalu and to Manotu in the sum of 5 *shamads* and to the exorcist-priest for a fine of a thousand Haretite sela's, except that whoever produces in his hand a document from the hand of Kamkam or Kulaybat, her **daughter**, regarding this tomb, this document will be valid. Wahballahi **son** of 'Abd'obodat made it.	descendants (collective) - *'hr* daughter - *brh*	Healey 1993: 154-155

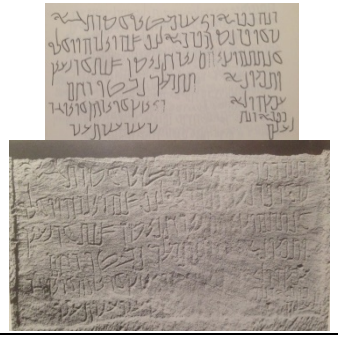
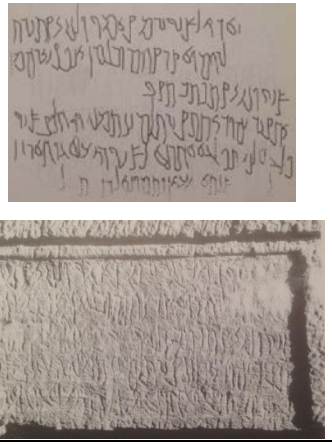
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 19	Hegra B 22/IGN 44 façade	26/27 C.E.	Funerary Inscription	 	This is the tomb which Kahlan the **physician**, **son** of Wa'lan, made for himself and his **children** and his **descendants** by hereditary title for ever. And this tomb is inviolable according to the nature of the inviolability of what is inviolably consecracted to Dushara among the Nabataeans and Salaminans. It is incumbent on everyone, **legal heir** and inheritor, not to sell this tomb or give it in pledge or lease it or lend(?) it or write for this tomb any document for ever. And anyone who produces in his hand a document from Kahlan - it shall be valid in accordance with what is in it. And anyone who writes for this tomb a document carrying out anything of what is above will be liable to Dushara in the sum of three thousand Haretite sela's and to our lord King Haretat for the same amount. And may Dushara and Manotu curse anyone who alters anything of what is above. In the month of Iyyar, the thirty-fifth year of Haretat, King of the Nabataeans, lover of his people. Aftah **son** of 'Abd'obodat and Halafallahi **son** of Hamlagu, the **masons,** made it.	descendants (collective) - *'hr* man/person/anyone - *'nws* physician - *'sy* son - *br* children (collective noun) - *yld* heir - *yrt* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 166
H 20	Hegra B 23/IGN 45 façade	49/50 C.E.	Funerary Inscription	 	This is the tomb which 'Aydu the **perfect**, **son** of 'Ubaydu, made for himself and for his **children** and for his **descendants**. And Aftiyu, **mother** of this same 'Aydu, **daughter** of Habibu, and Na'itat, his **wife**, **daughter** of Sullay, and whoever produces in his hand a write from the hand of this 'Aydu may be buried in the tomb. And this tomb was made in the month of Adar, the eleventh year of King Maliku, King of the Nabataeans. 'Abd'obodat **son** of Wahballahi and Hani'u **son** of 'Ubaydat and Afsa **son** of Hutu, the **masons**, made it.	descendants (collective) - *'hr* mother - *'m* wife - *'nth* son - *br* children (collective noun) - *yld*	Healey 1993: 171

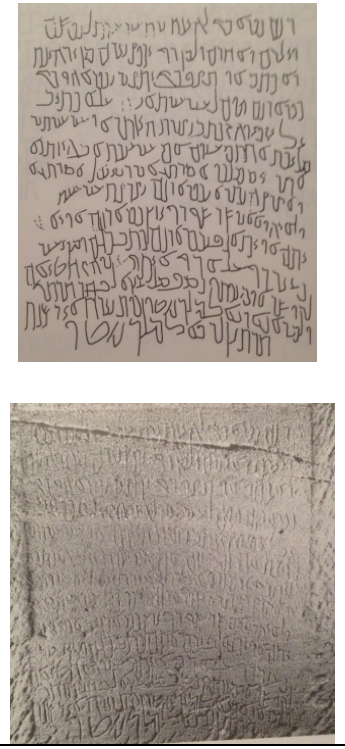
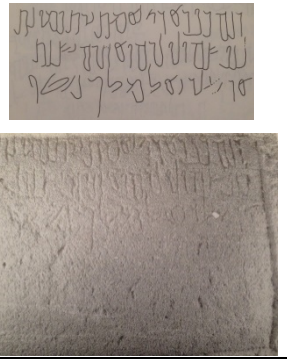
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 21	Hegra Ferid/IGN 110 façade	no date	Funerary Inscription		Translation A For Hayyan **son** of Kuza (and) his **descendants**. Translation B Lihyan **son** of Kuza took possession of it.	descendants (collective) - *'hr (?)* son - *br*	Healey 1993: 174
H 22	Hegra D/IGN 111 façade	74/75 C.E.	Funerary Inscription		This is the tomb belonging to Mugiru from GHR, son of Mugiru, to him and to his **descendants**. They may be buried in it for ever by **hereditary title**. And this was on the seventeenth day of Siwan, the fifth year of Rabel, King of the Nabataeans.	descendants (collective) - *'hr* son - *br* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 176
H 23	Hegra C 1/IGN 121 façade	no date	Funerary Inscription		This is the tomb of Sukaynat **daughter** of Murrat **of Mazin** and her **sons** and her **daughters** and their **children** for ever.	daughter - *brh* sons - *bny* daughters - *bnt* children (collective noun) - *yld* from MZN, of the MZN tribe (feminine) - *mzny*	Healey 1993: 178

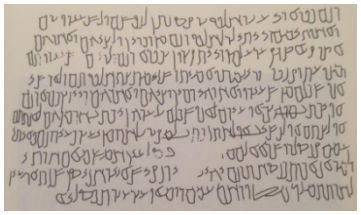
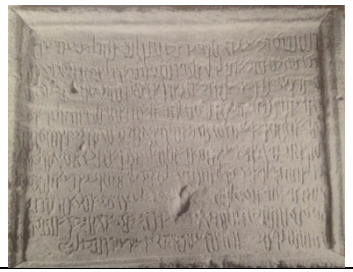
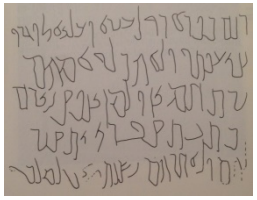
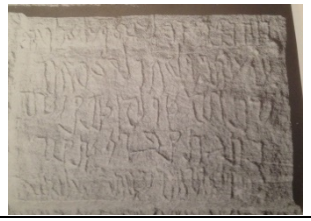
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 24	Hegra C 6/IGN 128 façade	36/37 C.E.	Funerary Inscription	 	This is the tomb which 'Animu **son** of Guzay'at and Arsaksah **daughter** of Taymu the **governor**, made on behalf of Ruma and Kalba, her **brothers**. And to 'Animy belongs a third of this tomb and burial-chamber and to Arsaksah two thrids of the tomb and burial-chamber. And her share of the burial-niches is the south-east(?) side and the burial-niches which are in it. They belong to them and their **children** by **hereditary title.** In the month of Tebet, the 45th year of Haretat, King of the Nabataeans, lover of his people. Aftah **son** (of 'Abd'obodat), the **mason**, made it.	brother - *'h* governor - *'srtg* son - *br* daughter - *brh* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 180
H 25	Hegra C 7/IGN 127 façade	15/16 C.E.	Funerary Inscription	 	This is the tomb and dwelling which Mun'at **son** of Abiyyan made for himself and his **sons** and his **daughters** and their **children**. In the twenty fourth year of Haretat, King of the Nabataeans, lover of his people.	son - *br* sons - *bny* daughters - *bnt* children (collective noun) - *yld*	Healey 1993: 185
H 26	Hegra C 14/IGN 117 façade	60/61 C.E.	Funerary Inscription	 	This is the tomb which Hinat **daughter** of Wahbu made for herself and for her **children** and her **descendants** for ever. And no-one has the right to sell it or give it in pledge or write for this tomb a lease. And whoever does other than this, his share will revert to his **legitimate heir.** In the twenty-first year of King Maliku, King of the Nabataeans.	descendants (collective) - *'hr* man/person/anyone - *'nws* daughter - *brh* children (collective noun) - *wld* legitimate heir/legal heir/kinsman - *sdq/'sdq* having the	Healey 1993: 187

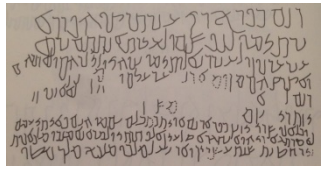
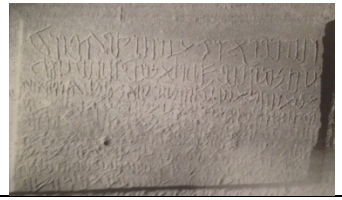
#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
						right/authorized/ empowered - *rsy*	
H 27	Hegra C 17/IGN 120 façade	16/17 C.E.	Funerary Inscription		This is the tomb which Taymallahi **son** of Hamilat made for himself. And he gave this tomb to Amah, his **wife**, **daughter** of Gulhumu, from the date of the deed of gift which is in her hand, that she might do with it whatever she wishes. From the 26th of Ab, the 25th year of Haretat, King of the Nabataeans, lover of his people.	wife - *'nth* son - *br* daughter - *brh*	Healey 1993: 189
H 28	Hegra D'/IGN 109 façade	unclear	Funerary Inscription		This is the tomb which Sullay **son** of Radwa made for himself and his **children** and his **descendants** by **hereditary title**. And none shall be buried in this tomb except by hereditary title, nor shall this tomb be sold nor given in pledge. And whoever does other than what is above shall be liable to Dushara, the god of our lord, in the sum of a thousand Haretite (sela's). In the month of Nisan, the 20+1+...th year of Haretat, King of the Nabataeans, lover of his people. Aftah the **mason** made it.	descendants (collective) - *'hr* son - *br* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 193

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 29	Hegra Qasr es-Sane/ IGN 102 façade	8/9 C.E.	Funerary Inscription	 	This is the tomb which Malkion the **omen-diviner**, made for Hunaynu Hephaestion the **commandant**, his **father**, and for himself and his **children** and his **descendants** by **hereditary title**. In the month of Nisan, the seventeenth year of our lord Haretat, King of the Nabataeans, lover of his people. 'Abdharetat, the **mason**, **son** of 'Abd'obodat, made it.	father - *'b* descendants (collective) - *'hr* son - *br* children (collective noun) - *yld* omen-diviner - *ptwr* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 196
H 30	Hegra E 1/IGN 58 façade	7/8 C.E.	Funerary Inscription	 	This is the tomb which Mun'at and Hagaru, the **children** of 'Amirat **son** of Wahbu, made for themselves and their **children** and their **descendants**. And if there should be among the **descendants** of this Mun'at one who does him wrong(?) who would sell of give in pledge his share of this tomb, his share will be (forfeit?) to the **descendants** of this same Hagaru. And if there should be among the **descendants** of this same Hagaru (one who does him wrong) similarly, his share will be (forfeit?) to the **descendants** of this same Mun'at. And anyone selling it will be liable to Dushara the god in the sum of one thousand Haretite sela's and to our lord Haretat for the same amount, the sum of one thousand Haretite sela's, and to...the goddess in the sum of five hundred sela's...From the...day in the month of..., the sixteenth year of Haretat, King of the Nabataeans, lover of his people.	descendants (collective) - *'hr* son - *br* children (collective noun) - *yld*	Healey 1993: 200
H 31	Hegra E 3/IGN 64 façade	unclear	Funerary Inscription		This is the tomb which Sa'dallahi the **centurion**, **son** of Zabda, made (for himself and for …and for) their **children** and for whoever comes from (the **children** of Sa'dallahi and produces in his hand a document to the effect that) he may be buried in it and for the **children** of Hannah...**son** of Huru... (And no) body will have the right...to sell or buy or give it in pledge or to lease it. (And whoever) does other than what is written above shall be liable for double the price of this whole burial-place and for the curse of Dushara	man/person/anyone - *'nws* son - *br* children (collective noun) - *yld* Centurion - *qntryn* having the right/authorized/	Healey 1993: 206

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
					a0dn Manotu. In the month of Nisan, the...th year of Haretat, King of the Nabataeans, lover of his people. And anyone who draws up for himself (a document) regarding this tomb or alters anything of what is above is liable to Dushara in the sum of a thousand Haretite sela's. Aftah made it.	empowered - *rsy*	
H 32	Hegra E 4/IGN 66 façade	39/40 C.E.	Funerary Inscription		This is the tomb which Matiyu the **governor**, **son** of Euphronios the **perfect**, made for himself and his **children** and Wa'ilu, his **wife**, and their **children**. In the month of Nisan, the forty-eighth year of Haretat, King of the Nabataeans, lover of his people. And no-one has the right to sell or give in pledge or lease this tomb for ever. Aftah **son** of 'Abd'obodat made it.	man/person/anyone - *'nws* wife - *'nth* governor - *'srtg* son - *br* children (collective noun) - *yld* having the right/authorized/ empowered - *rsy*	Healey 1993: 212
H 33	Hegra E 6/IGN 73 façade	39/40 C.E.	Funerary Inscription		This is the tomb which belongs to Shabbu **son** of Muqimu and to Nubayqat **daughter** of…and to their **children** and their **legal heir** and anyone who produces in his hand from Shabbu and Nubayqat a deed of entitlement…(that) he might be buried in it. And Tilm **daughter** of Mali may be buried (in it). And Shabbu will assign(?) half to Nubayqat; the other half is for Shabbu mentioned above (and) the burial-niche which is in it, (for him) alone. In the forty-eighth year of Haretat, King of the Nabataeans, lover of his people.	daughter - *brh* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 215

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 34	Hegra E 14/IGN 87 façade	71/72 C.E.	Funerary Inscription		This is the tomb belonging to Hinat **daughter** of 'Abd'ododat, for herself and her **children** and ther **descendants** and for whoever produces in his hand from the hand of this Hinat a document or dead of entitlement to the effect that he may be buried in this tomb, since this tomb had belonged to 'Abd'obodat, her **father**, mentioned above. During his lifetime, he wrote a document concerning the burials of this Hinat and 'Abd'obodat son of Malikat, sister of Ma'nuh, **mother** of 'Abd'obodat, **father** of this Hinat, **brother** of RSYM Maliku the **governor**, **son** of Rabibel the **governor**, and his **legal kinsman**, in a burial-place in this tomb by the bequest of (this) 'Abd'obodat. And no-one had the right to sell this tomb or to lease it or to draw up for himself any document. And whoever does other than what is above will be liable for a fine to Dushara and Manotu in the sum of one thousand Haretite sela's and to our lord Rabel, King of the Nabataeans, for the same amount. In the month of Iyyar, the second year of Rabel, King of the Nabataeans.	father - *'b* brother - *'h* descendants (collective) - *'hr* sister - *'ht* mother - *'m* man/person/anyone - *'nws* governor - *'srtg* daughter - *brh* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq* having the right/authorized/ empowered - *rsy*	Healey 1993: 219-220
H35	Hegra E 16/IGN 89 façade	73/74 C.E.	Funerary Inscription		This is the tomb belonging to Amat **daughter** of Kamulat, to herself and to her **children** and her **descendants**. In the fourth year of Rabel, King of the Nabataeans.	descendants (collective) - *'hr* daughter - *brh* children (collective noun) - *wld*	Healey 1993: 225

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H36	Hegra E 18/IGN 93 façade	31/32 C.E.	Funerary Inscription	 	This is the tomb which Halafu **son** of Qosnatan made for himself and for Su'aydu, his **son**, and his **brothers,** whatever male children may be born to this Halafu, and for their **sons** and their **descendants** by hereditary title for ever. And his **children** (?) may be buried in this tomb: this Su'aydu and Manu'at and Sanaku and Ribamat and Umayyat and Salimat, **daughters** of this Halafu. And none at all of Su'aydu and his brothers, makes, and their **sons** and their **descendants** has the right to sell this tomb or write a deed of gift or anything else for anyone at all, except if one of them writes for his **wife** or for his **daughters** or for a **father-in-law** or for a **son-in-law** a document for burial only. And anyone who does other than this will be liable for a fine to Dushara the god of our lord in the sum of five hundred Haretite sela's and to our lord for the same amount, according to the copy of this deposited in the temple of Qaysha. In the month of Nisan, the fortieth year of Haretat, King of the Nabataeans, lover of his people. Ruma and 'Abd'obodat, the **masons**.	brother - *'h* descendants (collective) - *'hr* man/person/anyone - *'nws* wife - *'nth* son - *br* children (collective noun) - *wld* son-in-law - *htn* father-in-law - *nsyb* legitimate heir/legal heir/kinsman - *sdq/'sdq* having the right/authorized/ empowered - *rsy*	Healey 1993: 226
H37	Hegra E 19/IGN 94 façade	56/57 C.E.	Funerary Inscription	 	This is the tomb which belongs to 'Abda and 'Ali'el and Gaddu, **sons** of 'Aftu, and to Ahakli, their **mother**, **daughter** of Himyan, and to whoever produces in his hand a deed of entitlement to the effect that he may be buried (in it). For them and for their **descendants**. In the 17th year of Maliku.	descendants (collective) - *'hr* mother - *'m* sons - *bny* daughter - *brh*	Healey 1993: 232

#	Inscription Location	Date	Inscription Type	Image	Inscription Translation (emphasis added)	Terms	Publication
H 38	Hegra F 4/IGN 100 façade	63/64 C.E.	Funerary Inscription	 	This is the tomb which Tarsu the **prefect**, **son** of Taymu, made for himself and for 'Aydat, his **wife**, **daughter** of 'Abd'adnon, and for 'Abdrabel and Taymu, his **sons**, and for their **children** and for their **descendants** and their l**egitimate heirs** from this day for ever. And... this tomb...his **sons**...and sell...give in pledge...And anyone who sells this tomb or writes for himself regarding it a deed of gift shall be liable to the **governor** who is in Hegra in the sum of a thousand Haretite sela's and to our lord King Maliku for the same amount. In the month of Tebet, the twenty-fourth year of King Maliku, King of the Nabataeans.	descendants (collective) - *'hr* man/person/anyone - *'nws* wife - *'nth* governor - *'srtg* son - br daughter - *brh* sons - *bny* children (collective noun) - *yld* legitimate heir/legal heir/kinsman - *sdq/'sdq*	Healey 1993: 234

APPENDIX II

Nabataean Burial Sites

Site Abbreviations

IGN = Institut Geographique National (following numbers refer to the tombs enumerated by this organization)

KD = Khirbet edh-Dharih

NRT = North Ridge Tombs

QAIA = Cemetery at Queen Alia International Airport

RT = Renaissance Tomb

WAK = Wadi Abu Khasharif

WM = Wadi Mataha

WMD = Wadi al-Mudayfi'at

Burial Abbreviations

A= Articulated

EX = Extended

FL = Flexed

NA = Not Articulated

P = Primary

S = Supine

SEC = Secondary

Wadi Mataha Tomb, Site 4

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
A	shaft grave	8-14	3-12 yrs.	IND	P, EX	head to N-E	Y	early-to mid-late 1st cen. C.E.	ceramic fragments of plates, and bowls (fine orange ware with tan slips)	partially
B	shaft grave	10-14	3-12 yrs.	IND	P, EX	head to N-E	Y	early to mid-1st cen. C.E.	ceramic fragments of plates, bowls, jugs and unguentaria (orange ware with tan slips, fine ribbing, and light red painted wares)	partially
C	shaft grave	adult	20+ yrs.	IND	SEC, NA	head to N-E	Y	late-1st cen. C.E.	ceramic fragments of fine ware cup, unguentaria, plates bowls (thin orange ware with tan slip)	Y
D	double level shaft grave	juvenile	12-20 yrs.	IND	SEC, NA		Y	late-1st cen. C.E.	ceramic fragments of bowls, cups, cooking pots (orange ware with tan slip)	Y
D	double level shaft grave	adult	20+ yrs.	IND	SEC, NA		Y	late-1st cen. C.E.	ceramic fragments of bowls, cups, cooking pots (orange ware with tan slip)	Y
D	double level shaft grave	adult	20+ yrs.	F	SEC, NA		Y	late-1st cen. C.E.	ceramic fragments of bowls, cups, cooking pots (orange ware with tan slip)	Y
E	shaft grave	sub-adult	12-20 yrs.	IND	SEC, NA		Y	late-1st cen. C.E.	ceramic fragments of plates, jugs (orange ware and red-on-orange fine ware)	Y

Wadi Mataha Non-monumental tombs, Site 13

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
1A	shaft grave	20-25	20+ yrs.	F	P, A	E	Y	late-1st cen. C.E.	ceramic fragments of bowls and cups with ring bases (red wares with tan slip); unguentaria; faunal bones (medium mammal - goat or sheep)	Y
1B	shaft grave	child	3-12 yrs.	IND	NA		Y	late-1st cen. C.E.	ceramic fragments of bowls and cups with ring bases (red wares with tan slip); unguentaria; faunal bones (medium mammal - goat or sheep)	Y

Wadi Mataha Tomb 676, Site 15

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
15L1	tomb - loculus						Y	last-half of 1st cen. C.E.	3 small beads, (shell and glass)	Y
15L2	tomb - loculus						Y	last-half of 1st cen. C.E.		Y
15L3	tomb - loculus						Y	last-half of 1st cen. C.E.	at bottom of cut was found a carnelian bead and pottery sherds	Y
15L6	tomb - loculus	4-6	3-12 yrs.	IND	P		Y	last-half of 1st cen. C.E.	nearly complete two handled large coarse ware cooking pot (dark red painted fine ware)	Y
15L7	tomb - loculus	40+	20+ yrs.	F			Y	last-half of 1st cen. C.E.		Y
15L8	tomb - loculus	23-33	20+ yrs.	M	SEC		Y	last-half of 1st cen. C.E.	ceramic sherds, lithics	Y
15L9	tomb - loculus	40-50	20+ yrs.	F	SEC		Y	last-half of 1st cen. C.E.	below cover stone was a bronze half circle and a gold seal with an Arabic inscription, an iron needle, yellow glass tesserae, green glass tubular bead, green glass oval bead	Y
15L10	tomb - loculus	15-18	12-20 yrs.	F	P		Y	last-half of 1st cen. C.E.	blue glass tesserae, white marine sea shell bead, ceramic jar top, dark red and brown ware, plate fragments	Y
15L12	tomb - loculus	adult	20+ yrs.	F				last-half of 1st cen. C.E.		
15L12	tomb - loculus	8-14	3-12 yrs.	IND				last-half of 1st cen. C.E.		
15L14	tomb - loculus	adult	20+ yrs.	M				last-half of 1st cen. C.E.		
15L15	tomb - loculus	25-35	20+ yrs.	F	P		Y	last-half of 1st cen. C.E.	dark red and brown fine ware plates, unguentaria, rosette lamp frag., cooking pots, cups, jars	Y
15L15	tomb - loculus	33-45	20+ yrs.	F	P, A		Y	mid-1st cen. C.E.	2 gold earrings, lithics, dark red fine ware	Y

Wadi Mataha Tomb, Site 16

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
A	tomb - loculus	adult	20+ yrs.	M			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	child	3-12 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
A	tomb - loculus	perinatal	7 mos. in utero	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	canine paw, fine plain orange ware 97 wooden chips	Y
B	tomb - loculus	adult	20+ yrs.	M			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 102 wooden chips	Y
B	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 102 wooden chips	Y
B	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 102 wooden chips	Y
B	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 102 wooden chips	Y
B	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 102 wooden chips	Y
B	tomb - loculus	child	3-12 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 102 wooden chips	Y
B	tomb - loculus	child	3-12 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 102 wooden chips	Y
C	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, terra sigilata, 15 wooden objects	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
C	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, terra sigilata, 15 wooden objects	Y
C	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, terra sigilata, 15 wooden objects	Y
C	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, terra sigilata, 15 wooden objects	Y
C	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, terra sigilata, 15 wooden objects	Y
C	tomb - loculus	child	3-12 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, terra sigilata, 15 wooden objects	Y
C	tomb - loculus	perinatal	7 mos. in utero	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, terra sigilata, 15 wooden objects	Y
D	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
D	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
D	tomb - loculus	adult	20+ yrs.	M			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
D	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
D	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
D	tomb - loculus	12	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
D	tomb - loculus	6	3-12 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
D	tomb - loculus	infant	0-3 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	falcon humerus, fine plain orange ware, 159 wooden chips	Y
E	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware, 8 wooden objects	Y
E	tomb - loculus	adult	20+ yrs.	M			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware, 8 wooden objects	Y
E	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware, 8 wooden objects	Y
E	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware, 8 wooden objects	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
E	tomb - loculus	child	3-12 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware, 8 wooden objects	Y
F	tomb - loculus	30	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware	Y
F	tomb - loculus	adult	20+ yrs.	M			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware	Y
F	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware	Y
F	tomb - loculus	infant	0-3 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware	Y
F	tomb - loculus	perinatal	7 mos. in utero	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	unguentarium, fine plain orange ware	Y
G	tomb - loculus	18-24	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	vertebrae of laree colubridae, fine plain orange ware	Y
G	tomb - loculus	18-35	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	vertebrae of lare colubridae, fine plain orange ware	Y
H	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	goat tailbone, fine plain orange ware	Y
H	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	goat tailbone, fine plain orange ware	Y
H	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	goat tailbone, fine plain orange ware	Y
I	tomb - loculus	young adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 97 wooden chips	Y
I	tomb - loculus	adult	20+ yrs.	M			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 97 wooden chips	Y
I	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 97 wooden chips	Y
J	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 208 wooden chips	Y
J	tomb - loculus	adult	20+ yrs.	M			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 208 wooden chips	Y
J	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 208 wooden chips	Y
J	tomb - loculus	child	3-12 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 208 wooden chips	Y
K	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 6 wooden objects	Y
K	tomb -	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to	fine plain orange ware, 6 wooden	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
	loculus							late-1st cen. C.E.	objects	
K	tomb - loculus	young adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, 6 wooden objects	Y
L	tomb - loculus	adult	20+ yrs.	F			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, piece of dark painted ware, 12 wooden chips	Y
L	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, piece of dark painted ware, 12 wooden chips	Y
L	tomb - loculus	adult	20+ yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, piece of dark painted ware, 12 wooden chips	Y
L	tomb - loculus	adolescent	12-20 yrs.	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, piece of dark painted ware, 12 wooden chips	Y
L	tomb - loculus	perinatal	7 mos. in utero	IND			Y	2nd cen. B.C.E to late-1st cen. C.E.	fine plain orange ware, piece of dark painted ware, 12 wooden chips	Y

North Ridge Tombs, Petra

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
1	chamber tombs loculi	adult	20+ yrs.	F	P	N-S	Y	first cen C.E.	ceramic fragments consisting of 21 bowls, 2 jars, 2 jugs, 6 juglets, 1 pitcher, 2 unguentarium, 2 cooking pots, 1 storage jar, 1 chalice	Y
2	chamber tombs loculi	adult	20+ yrs.	M	P		Y	first cen C.E.	ceramic fragments consisting of 21 bowls, 2 jars, 2 jugs, 6 juglets, 1 pitcher, 2 unguentarium, 2 cooking pots, 1 storage jar, 1 chalice	Y
3	chamber tombs loculi	6 mos.-1yr.	0-3 yrs.	IND	P		Y	first cen C.E.	ceramic fragments consisting of 21 bowls, 2 jars, 2 jugs, 6 juglets, 1 pitcher, 2 unguentarium, 2 cooking pots, 1 storage jar, 1 chalice	Y
4	chamber tombs loculi	3-4	3-12 yrs.	IND	P		Y	first cen C.E.	ceramic fragments consisting of 21 bowls, 2 jars, 2 jugs, 6 juglets, 1 pitcher, 2 unguentarium, 2 cooking pots, 1 storage jar, 1 chalice	Y
1	chamber tombs coffin? - with burial 9	20-24	20+ yrs.	F	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y
2	chamber tombs holding burial 10	45-49	20+ yrs.	IND	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y
4	chamber tombs burial 6 behind	25-29	20+ yrs.	M	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y
5	chamber tombs	50-59	20+ yrs.	F	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
6	chamber tombs burial 4 in front	35-39	20+ yrs.	F	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y
8	chamber tombs coffin?	young adult	20+ yrs.	F	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y
9	chamber tombs with burial 1	6 mos.	0-3 yrs.	IND	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y
10	chamber tombs coffin? Held by burial 2	newborn	1 mo. after birth	IND	P		Y	first cen C.E.	ceramic fragments consisting of 15 bowls, and 2 juglets	Y
C		25-29	20+ yrs.	F			Y	first cen C.E.		Y
C		40-44	20+ yrs.	F			Y	first cen C.E.		Y
C		40-44	20+ yrs.	F			Y	first cen C.E.		Y
C		60+	20+ yrs.	F			Y	first cen C.E.		Y
C		45-49	20+ yrs.	M			Y	first cen C.E.		Y
C		40-44	20+ yrs.	M			Y	first cen C.E.		Y
C		35-39	20+ yrs.	M			Y	first cen C.E.		Y
C		25-26	20+ yrs.	M			Y	first cen C.E.		Y
C		20-24	20+ yrs.	IND			Y	first cen C.E.		Y
C		30-34	20+ yrs.	IND			Y	first cen C.E.		Y
C		25-29	20+ yrs.	IND			Y	first cen C.E.		Y
C		30-34	20+ yrs.	IND			Y	first cen C.E.		Y
C		2-3	0-3 yrs.	IND			Y	first cen C.E.		Y
C		18 mos.-2yrs.	0-3 yrs.	IND			Y	first cen C.E.		Y
C		10-11	3-12 yrs.	IND			Y	first cen C.E.		Y
C		4-5	3-12 yrs.	IND			Y	first cen C.E.		Y
C		NB-6 mos.	0-3 yrs.	IND			Y	first cen C.E.		Y
C		6 mos.-1yr.	0-3 yrs.	IND			Y	first cen C.E.		Y

Renaissance Tomb, Petra

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
1A	shaft grave	45-50	20+ yrs.	M			Y	mid-late 1st cen C.E.	ceramic sherds	Y
1A	shaft grave	30-40	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
1B	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
2	shaft grave	5-9 or10-14	3-12 yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
4	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	tombstone written in Nabataean	Y
5	shaft grave	40-45	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
5	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
7	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	textiles	Y
8	shaft grave	6-7	3-12 yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds, complete lamp, tombstone written in Nabataean	Y
9	shaft grave	35-40	20+ yrs.	M			Y	mid-late 1st cen C.E.	ceramic sherds	Y
10	shaft grave	30+	20+ yrs.	M			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	adult	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	adult	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	adult	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	6	3-12 yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	8-9	3-12 yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
12	shaft grave	16-19	12-20 yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
13	shaft grave	18-25	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
13	shaft grave	25+	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y
14	shaft grave	adult	20+ yrs.	IND			Y	mid-late 1st cen C.E.	ceramic sherds	Y

Khirbet edh-Dharih Tombs

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
C1: I 1-2	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I 1-2	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I 1-2	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I 1-2	shaft grave	>1	0-3 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E..		Y
C1: I 1-2	shaft grave	1	0-3 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I 1-2	shaft grave	3-5	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I 1-2	shaft grave	3-5	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I 1-2	shaft grave	5-9	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I 1-2	shaft grave	7-14	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I-3	shaft grave	3-6	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?), bronze coin	Y
C1: I-3	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?), bronze coin	Y
C1: I-4	shaft grave	14-20	12-20 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: I-5	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?)	Y
C1: I-5	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?)	Y
C1: I-5	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?)	Y
C1: I-5	shaft grave	>1	0-3 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?)	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
C1: I-5	shaft grave	1-2	0-3 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?)	Y
C1: I-5	shaft grave	3-8	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?)	Y
C1: I-5	shaft grave	7-15	12-20 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	iron nails (coffin?)	Y
C1: 1 A	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: 1 A	shaft grave	child	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: 1 A	shaft grave	child	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: 1 A	shaft grave	child	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: II-1	shaft grave	young adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: II-1	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: II-1	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: II-1	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: II-1	shaft grave	>2	0-3 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: III - but belong to I	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: III - but belong to I	shaft grave	2-4	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: III - but belong to I	shaft grave	child	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: western paving	shaft grave	adult	20+ yrs.	IND			Y	2nd-4th and 6th-7th cen C.E.		Y
C1: western paving	shaft grave	>2	0-3 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: western paving	shaft grave	4	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
C1: western paving	shaft grave	child	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	adolescent	12-20 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	adolescent	12-20 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	>2	0-3 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: paving	shaft grave	3-7	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: II-2	shaft grave	young adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	bronze coin, terracotta lamp	Y
C1: II-3	shaft grave	young adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	wood frag., and nails (coffin?), 2 bronze coins, gold earring, bronze anklet, beads	Y
C1: II-4	shaft grave	adult	20+ yrs.	IND	P	E-W	Partially	2nd-4th and 6th-7th cen C.E.	2 coins, frag. Of leather (shroud?)	
C1: II-5	shaft grave	adult	20+ yrs.	IND	P	E-W	Partially	2nd-4th and 6th-7th cen C.E.	2 coins, frag. Of leather (shroud?)	
C1: IV-1	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: IV-1	shaft grave	child	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: IV-2	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: IV-2	shaft grave	4+	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
C1: IV-3	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: IV-3	shaft grave	adolescent	12-20 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: IV-3	shaft grave	child	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: IV-4	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: IV-5	shaft grave	adult	20+ yrs.	IND	P, EX	E-W	Partially	2nd-4th and 6th-7th cen C.E.	Trapezoidal coffin, leather frag. (shroud?)	
C1: V-1	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: V-3	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	reused stele, leather frag. (shroud?)	Y
C1: V-4	shaft grave	adult	20+ yrs.	IND	P, EX	E-W	Partially	2nd-4th and 6th-7th cen C.E.	leather frag. (shroud?)	
C1: V-5	shaft grave	adult	20+ yrs.	IND	P, EX	E-W	Partially	2nd-4th and 6th-7th cen C.E.	ring	
C1: VI-2	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	stele	Y
C1: VI-2	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: VI-3	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: VI-4	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: VI-5	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: VI-5	shaft grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: VI-5	shaft grave	adolescent	12-20 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C1: VI-5	shaft grave	2-4	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.		Y
C2 Tomb: A	cist grave	adult	20+ yrs.	IND	P		Y	2nd-4th and 6th-7th cen C.E.	2 bronze bracelets	N

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
C2 Tomb: C	cist grave	adult	20+ yrs.	F	P		Y	2nd-4th and 6th-7th cen C.E.	iron ring, 2 bronze rings, comb, glass, beads	Y
C2 Tomb: C	cist grave	adult	20+ yrs.	IND	P		Y	2nd-4th and 6th-7th cen C.E.	iron ring, 2 bronze rings, comb, glass, beads	Y
C2 Tomb: C	cist grave	adolescent	12-20 yrs.	M	P		Y	2nd-4th and 6th-7th cen C.E.	iron ring, 2 bronze rings, comb, glass, beads	Y
C2 Tomb: D	cist grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	3 pierced shells, iron belt buckle, pin, 2 bronze rings, bronze tablets, 4 frag. Of ivory rings, pearl	Y
C2 Tomb: D	cist grave	2-4	3-12 yrs.	IND	P		Y	2nd-4th and 6th-7th cen C.E.	3 pierced shells, iron belt buckle, pin, 2 bronze rings, bronze tablets, 4 frag. Of ivory rings, pearl	Y
C2 Tomb: E	cist grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	2 bronze earrings	Y
C2 Tomb: F	cist grave	6-10	3-12 yrs.	IND	P		Y	2nd-4th and 6th-7th cen C.E.		Y
C2 Tomb: F	cist grave	8-15	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	stone bead necklace, bronze ring, bronze band	Y
C2 Tomb: F	cist grave	7-14	3-12 yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	silver ring, iron bracelet, necklace of stone beads, ivory, small glass jug	Y
C2 Tomb: F	cist grave	3-5	3-12 yrs.	IND	P		Y	2nd-4th and 6th-7th cen C.E.		Y
C2 Tomb: F	cist grave	6-11	3-12 yrs.	IND	P		Y	2nd-4th and 6th-7th cen C.E.	5 pierced shell, glass beads, bracelet stone beads, stone beads	Y
C2 Tomb: F	cist grave	adult	20+ yrs.	IND	P	E-W	Y	2nd-4th and 6th-7th cen C.E.	silver earring, bronze earring, stone beads	Y
C2 Tomb: G	cist grave	2-4	3-12 yrs.	IND	P		Y	2nd-4th and 6th-7th cen C.E.	ivory bracelets, bronze band, shell pierced necklace	Y
C2 Tomb: H	cist grave	adult	20+ yrs.	M	P		Y	2nd-4th and 6th-7th cen C.E.		Y

Cemetery at Queen Alia International Airport

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
1	cist grave	adult	20+ yrs.		P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	rings, leather, anklet	
2	cist grave	adult	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
3	cremation	50+	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	lead ossuary with cover, ceramic jug	
4	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.	pair of sandals	
4	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
5	cist grave	child?	3-12 yrs.	F?	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze buckle, copper and steel bracelet, fiber core, iron bracelet, glass beads	
6	cist grave	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	sandals	
7	cist grave	40+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
8	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
9	cist grave	adult	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze bezel ring	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
10	cist grave	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bracelet, silver pendant, silver chain, copper ring, iron bracelet, leather sandals, small clam shell, cloth remnant on iron bracelet	
11	cist grave	16-27	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	cloth or leather covered whole body	
12	cist grave	11-14	12-20 yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather sandals, leather with iron grommets, cloth	
13	cist grave	30-35	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze bracelet, clam shell	
14	cist grave	16-20	12-20 yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
14	cist grave	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 bronze bracelets, bronze ring, glass bracelet, glass vessel	
14	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.	bronze wire bracelet, bronze wire ring, iron blade frag., bone hair-pins, bone needle, sandals, 39 glass beads, leather	
15	cist grave	adult	20+ yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
16	cist grave	21-29	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
16	cist grave	20-30	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
17	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
18	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
19	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
20	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	green stone seal, iron bezel ring frag., iron wire ring, iron band ring, leather remnants	
21	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
22	cist grave	34-39	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
22	cist grave	25-35	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather button?	
23	cist grave	IND		IND	P, NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.		
23	cist grave	IND		IND	P, NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.		
24	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
25	cist grave	35-50	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	
26	cist grave	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
27	cist grave	adult	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
28	cist grave	adult	20+ yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
29	cist grave	adult	20+ yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
30	cist grave	4-6	3-12 yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	beads	
31	cist grave	20-35	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
32	cist grave	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.		
33	cist grave	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.	polychrome earrings, pearls, beads, clam shell	
34	cist grave	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 copper hoop earrings, 2 copper rings, 2 copper bracelets, 24 glass beads, 1 frit	
35	cist grave	25-40	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
36	cist grave	40-55	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze bracelet, amethyst, agate, carnelian and glass beads, scaraboid amulet/bead	
37	cist grave	50+	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
38	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
39	cist grave	adult	20+ yrs.	F?	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze bezel ring, copper wire anklet, copper/bronze bracelet, iron heavy tapered bracelet, leather sandals	
40	cist grave	adult	20+ yrs.	F?	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	iron/copper bracelet, bronze and copper rings, glass bracelet, 4 bone amulet pendants, 1 frit obelisk amulet, 2 tubular bone beads, glass beads, 4 dentalium shells	
41	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
42	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze spatula, beads	
43	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
44	cist grave	40-45	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
45	cist grave	child?	3-12 yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
46	cist grave	50+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
47	cist grave	40-45	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	within stone cist of 8 ashlar orthostatic, faience beads, bronze coin, leather sandals (disintegrated)	
48	cist grave	adult	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather: covers, whole, reticulate pressed decoration, cap or hood tunic, part of one full-length piece runs over legs and feet	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
49	cist grave	20-25?	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
50	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	iron bracelet, leather was over pressed reticulate decoration bindings and placket, straps fine applique decoration with cut-out design seam strengthened with thong one braided tassel	
51	cist grave	child	3-12 yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
52	cist grave	child?	3-12 yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze rings, 2 silver earrings, copper ring, iron ring, copper hoop, 4 beads, 3 millefiori, 1 white frit spherical, 1 bone amulet	
53	cist grave	40-55	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather sandals	
54	cist grave	50+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather sandals	
55	cist grave	45+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather sandals	
56	cist grave	30+	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
57	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
58	cist grave	fetus	before birth	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	beads, 2 shells, 1 cowrie, 1 cockle, leather stain	
58	cist grave	25-40	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	beads, 2 shells, 1 cowrie, 1 cockle, leather stain	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
59	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
60	cist grave	16-22	12-20 yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	terracotta figurine, silver earring, bulbous with opal, alabaster Pyxis, bronze coin, shell, 3 wooden vessels, iron bezel ring, bezel, silver ring, decoration, leather stain	
61	cist grave	adult	20+ yrs.	F?	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
62	wooden coffin						Y	Roman Imperial period (terminus) ante quem of 244C.E.	wooden coffin, iron nails	
63	cist grave	40+	20+ yrs.	M?	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
64	cist grave	40+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	marble alabastron, basalt rubbing stone, 12 bone hairpins frag., 3 heads, small cockle shell, iron frag., lead frag., 2 bone amulets	
65	cist grave	child	3-12 yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	gold rings of beads, carnelian, agate, and glass beads, silver spatula fragment, copper earring frag., 2 copper bracelets frag.	
66	cist grave	adult?	20+ yrs.	F?	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	silver mirror, 19 glass beads, silver ring frag.	
67	cist grave	35-60	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze anklet, bronze wire bracelet, bronze cotton cover, bone hairpin complete, 4 glass beads, 2 faience gadrooned, 2 marbled, 2 shells, 1 cowrie, 1 small cockle	
68	cist grave	35-45	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze spatula, bronze cosmetic spoon, 2 bronze earrings, iron scissors?	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
69	cist grave	50+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	silver coin, bronze rings, iron bracelet	
70	cist grave	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	gray stone button	
71	cist grave	10-13	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	grey stone button, iron bracelet frag.	
72	cist grave	24-27	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
73	on top of cover stones	40-50	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper band ring	
73	below cover stones	35-45?	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	pair of gold shield earrings, 2 bronze rings, iron bracelet, glass vessel, pottery sherd	
74	cist grave	35-45?	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze kohl tube, 2 copper and iron wound bracelets, bronze bezel ring, 2 copper wire earrings, 2 bronze pins, bone anthropomorphic amulet, 2 pair sandals	
75	cist grave	45+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper bracelet, 2 bronze spatulas, bronze kohl tube, bone bead, iron bracelet frag., iron bezel ring, 2 glass vials, glass goblet lid, glass globe, 5+ hair-pins, 1 oval head, bone needle, ivory spindle and whorl, jet necklace, pearl oyster shell, 2 cowrie shells, leather band	
75	cist grave	20-27	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
75	cist grave	14-19	12-20 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 gold disc earrings, 4 glass bracelets, glass finger ring	
76	cist grave	50+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 bronze armlets, bronze knob, 2 annulets, 1 copper wire, 2 copper hoop earrings, bronze spatula frag., bone hairpin, faience amulet, leather band, sandals	
77	cist grave	40-60	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
78	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
79	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
80	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
81	cist grave	40+	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
82	two conjoined Shafts Two	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	23 glass beads, leather, sandals	
83	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
84	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.	copper ring, 2 fine wires	
85	cist grave	5-7	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	gold? Wire frag., 2 copper bracelets, bronze band, 9 glass beads	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
86	cist grave	50+	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
87	cist grave	50+	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
88	cist grave	27-38	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
89	two shafts conjoined	40+	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather frag., clothing with impressed check pattern, copper bracelet, 25 beads	
90	cist grave	adolescent	12-20 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	beads around neck, bracelets on both arms, anklets on both legs	
91	cist grave	adolescent?	12-20 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	
92	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.	leather	
93	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.	leather	
94	cist grave	child?	3-12 yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	iron bracelet frag?	
95	cist grave	15-19	12-20 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	sandals	
96	cist grave	15-19	12-20 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
97	cist grave	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze earrings, copper earing, bronze cosmetic spoon, bronze pin, iron bracelet, glass bottle, bone hairpins, 18 glass beads, leather	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
98	cist grave	25-40	20+ yrs.	M?	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	
99	cist grave	34-39	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze ring, 2 glass vessels, bone pins, bone? Amulet, 2 shells, 1 cockle	
99	cist grave	25-35	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
100	one burial above the other	50+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze ring, iron bracelet frag., iron bezel ring? Bone button	
100	one burial above the other	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze ring, iron bracelet frag., iron bezel ring? Bone button	
101	cist grave	40-50	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
102	cist grave	child?	3-12 yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
103A	cist grave	30-45	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	iron bezel ring, leather wrapped on skill, wrappings on lower legs	
103B	cist grave	adult	20+ yrs.	F	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	7 bone hairpins, one with bird head	
104	cist grave	4-7	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	terracotta figurine, button, band bracelet, vessel, leather, iron ring frag.	
105	105-110 mixed	adult	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	4 glasses vessels, copper twist bracelet, copper annulet frag., copper earring frag., iron bezel ring	
105	105-110 mixed	30-45	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	same as above	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
105	105-110 mixed	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	same as above	
106	105-110 mixed	16-19	12-20 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper bracelet frag., iron bracelet frag., iron bezel ring, leather	
107	105-110 mixed							Roman Imperial period (terminus) ante quem of 244C.E.	leather: 2 sandals	
108	105-110 mixed	30+	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
109	105-110 mixed	25-40	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
110	105-110 mixed	adult	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper ring, 2 iron bracelets, bone pin-head, 2 sherds	
111	cist grave	40-55	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper and iron bracelet, leather full-length garment or shroud	
111	cist grave	25-26	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper and iron bracelet, leather full-length garment or shroud	
111	on chest of adult	1-3	0-3 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	gold earring, sandal	
111	on chest of adult	newborn	1 mo. after birth	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	gold earring	
112	cist grave	16-19	12-20 yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 glass beads, cowrie shell	
113	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
114	cist grave	35-45	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
115	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
116	cist grave	adult?	20+ yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
117	cist grave	35-45	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 bronze rings, 69 beads, 41 oblate black bitumen, leather, sandals for a child	
117	swept to east end	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.		
118	cist grave	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.	bronze copper spoon, bronze rivet, 2 bone studs, 3 bone plaques, cloth frag.	
119	cist grave	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 bronze rings, 2 copper earrings, ceramic pot	
120	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
121	adult with child in arms	adult	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	
121	adult with child in arms	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	
122	cist grave	50+	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bone hairpins	
122	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	bone hairpins	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
123	cist grave	4-6	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	
124	cist grave	3	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather	
125	cist grave	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.	iron ring frag., with impressed figure leaning on shield	
126	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
127	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
128	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
129	cist grave	adult?	20+ yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
130	cist grave	adult?	20+ yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
131	cist grave	40+	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather frag., wood comb frag.	
132	cist grave	IND		IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
133	2 shafts conjoined: north shaft	adult	20+ yrs.	M?	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper hoop earring frag., rim sherd, leather	
133	2 shafts conjoined: north shaft	18-21?	12-20 yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper hoop earring frag., rim sherd, leather	

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
133	2 shafts conjoined: south shaft	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	copper hoop earring frag., rim sherd, leather	
134	cist grave	IND		IND	NA		Y	Roman Imperial period (terminus) ante quem of 244C.E.		
135	cist grave	child	3-12 yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 copper and iron bracelets	
136	cist grave	adult?	20+ yrs.	F?	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	gold earrings with pendants, bronze ring, bronze toggle pin, iron bezel ring	Y
137	cist grave	40+	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	leather?	
138	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.	bracelet?	Y
139	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.		
140	cist grave	30+	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 copper armlets, 2 copper bracelets bronze pin, 26 beads, leather	
141	cist grave	adult?	20+ yrs.	IND	P, NA	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
142	no record							Roman Imperial period (terminus) ante quem of 244C.E.		
143	cist grave	40-45	20+ yrs.	F	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 copper earrings	
144-147	no record							Roman Imperial period (terminus) ante quem of 244C.E.		

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Burial Date	Grave Goods	Looted
146	cist grave	40+	20+ yrs.	M	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.		
148	cist grave	adult?	20+ yrs.	IND	P, S	E-W	Y	Roman Imperial period (terminus) ante quem of 244C.E.	2 gadrooned faience beads	
149-163	no record							Roman Imperial period (terminus) ante quem of 244C.E.		
164	cist grave							Roman Imperial period (terminus) ante quem of 244C.E.	7 glass beads, bone amulet figure	
165-173	no record									

Wadi al-Mudayfiat and Wadi Abu Khasharif Non-monumental tombs

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
MD A 1	cist grave							2-4 cen C.E.	Leather fragments, coarse textile frag., 2 frag. Fine woven textiles with colored check, long dyed hair	Y
MD A 2	cist grave	7	3-12 yrs.	M	P, FL	E-W	Y	2-4 cen C.E.	Fine leather fragments, fine stitched frag., fine white cloth, braid attached to skull	Y
MD B 1	cist grave	50+	20+ yrs.	M	P, FL	E-W	Y	2-4 cen C.E.	Textile and leather frag., linen over face	Y
MD C 1	cist grave	25 to 29	20+ yrs.	F	P, FL	E-W	Y	2-4 cen C.E.	Reddish-brown leather cover, fine white linen, yellow coarse textile, stitched leather, black hair	N
WAK A 1	cist grave	16 to 18	12-20 yrs.	F	P, NA	E-W	Y	2-4 cen C.E.	Leather frag., green beads, large beads, frag. Bone bracelet and wire	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
Z.4a	pit	adult	20+ yrs.	IND	P, NA	E-W		LR	none	Y
Z.4a	pit	sub-adult	12-20 yrs.	IND	P, NA	E-W		LR	none	Y
Z.4b	cist - coffin	5-9	3-12 yrs.	IND	P, E, S	E-W		LR	metal foot adornment	Y
Z.5	cist - coffin	IND		IND	P, NA	IND		LR	glass, nail, 1 copper bead	Y
Z.6	cist - coffin	15 +/- 36 mo.	12-20 yrs.	IND	P, NA	E-W		LR	beads, floral sample, earring metal frag.	Y
Z.7	pit - coffin	14-16	12-20 yrs.	F	P, E, S	E-W		R	nails, ring	Y
Z.7	pit - coffin	27-35	20+ yrs.	M	P, E, S	E-W		R	nails, ring	Y
Z.8	pit - coffin	30-40	20+ yrs.	M	P, E, S	E-W		LR	metal brackets, nails	Y
Z.10	pit	35-45	20+ yrs.	F	P, A	E-W		LR	none	Y
Z.11	pit-coffin	4-6	3-12 yrs.	IND	P, A	E-W		LR	none	Y
AA.19:010	pit	35-45+	20+ yrs.	F	P, E, S	E-W		R/Byz	coffin, copper ring, nails, hinges, glass, alabaster frag., earring	Y
AA.19:017	ossuary within pit	17-23	12-20 yrs.	F	P, NA					Y
AA.19:017	ossuary within pit	35- 45	20+ yrs.	M	P, NA					Y
AA.19:017	ossuary within pit	35-45	20+ yrs.	F	P, NA					Y
AA.19:020	pit	30-40	20+ yrs.	F	P, A	W-E			copper ring, coffin, nail frag.	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
AA.19:018	pit	30-40	20+ yrs.	M?	P, E, S	E-W				Y
AA.20:009 AA.20:015	pit	20-27	20+ yrs.	M	P, NA			LR/Ebyz		Y
AA.20:009 AA.20:015	pit	14-18	12-20 yrs.	F	P, NA					Y
AA.20:009 AA.20:015	pit	25-35+	20+ yrs.	F	P, NA					Y
AA.20:011	pit	30-40	20+ yrs.	M	P, E, S	W-E			coffin wood	Y
AA.20.013	pit	30-40	20+ yrs.	M	P, E, S					Y
AA.20:019	pit	birth +/- 2 months	7 mos. in utero	IND	P, NA	E-W			copper bracelet, bead, pendent	Y
AA.21:009	pit	4+/-12 mos.	3-12 yrs.	IND	P, A	E-W			coffin wood	Y
AA.21:009	pit	25 to 25+	20+ yrs.	F	P, A	E-W			coffin wood	Y
AA.23:008 AA.23:009	cist	4 +/- 12 mos.	3-12 yrs.	IND	p			LR, R, Byz	Goat hair shroud, copper bracelet	Y
AA.23:008 AA.23:009		17-25	20+ yrs.	M	P					Y
AA.23:008 AA.23:009		45+	20+ yrs.	F	P					Y
AA.23:008 AA.23:009		25-35	20+ yrs.	M	P					Y
CC.2:006		20-30	20+ yrs.	M	NA				LR pottery sherds, cooper ring, glass frag.	Y
CC.2:006		30-40+	20+ yrs.	F	NA				LR pottery sherds, cooper ring, glass frag.	Y
CC.2:006		40-50	20+ yrs.	M	NA				LR pottery sherds, cooper ring, glass frag.	Y
CC.2:006		14-18	12-20 yrs.	F	A				LR pottery sherds, cooper ring, glass frag.	Y
CC.1:007	cist	17-25	20+ yrs.	F	NA	E-W			metal frag., coffin	Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
CC.1:007	cist	25- 35	20+ yrs.	IND	NA	E-W			metal frag., coffin	Y
CC.2:005	pit	2-3	0-3 yrs.	IND	A (resting on horses front legs)	E-W			skeletal remains of horse, leather +metal bridle/halter, post molds, shroud, necklace	Y
CC.2:006	cist	20-30	20+ yrs.	M	P, A	E-W		LR	glass frag., copper ring, leather sandals, ash, coffin or shroud, glass bracelet, rings, beads, earrings	Y
CC.2:006	cist	30-40+	20+ yrs.	F	P, NA	E-W		LR	glass frag., copper ring, leather sandals, ash, coffin or shroud, glass bracelet, rings, beads, earrings	Y
CC.2:006	cist	40-50	20+ yrs.	M	P, NA	E-W		LR	glass frag., copper ring, leather sandals, ash, coffin or shroud, glass bracelet, rings, beads, earrings	Y
CC.2:006	cist	14-18	12-20 yrs.	F	P, NA	E-W		LR	glass frag., copper ring, leather sandals, ash, coffin or shroud, glass bracelet, rings, beads, earrings	Y
CC.2:007	cist	9-24 mos. birth to 1 year	0-3 yrs.	IND	P, E, S	E-W		LR	post molds, copper and amber earrings, glass beads, pendant w/metal clasps	Y
CC.2:007	smaller pit within larger pit	birth-1 yr.	0-3 yrs.	IND	P, NA			LR	pierced saltwater shell, two earrings	Y

Hegra Tomb IGN 103

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
	tomb - loculus	adult	20+ yrs.	M	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	>1	0-3 yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	>1	0-3 yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	1-4	0-3 yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	1-4	0-3 yrs.	IND	P		Y	first - third cen. C.E.		Y
	tomb - loculus	adolescent	12-20 yrs.	IND	P		Y	first - third cen. C.E.		Y

Hegra Tomb IGN 88

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
	tomb - loculus	adult	20+ yrs.	M			Y	first cen. C.E.	seed necklace, 7 small shells sewn onto pieces of leather, 40 small shells, wood frag., leather frag.	Y
	tomb - loculus	adult	20+ yrs.	M			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	M			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	M			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	F			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	F			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	F			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	F			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	adult	20+ yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	perinatal	7 mos. in utero	UND			Y	first cen. C.E.		Y
	tomb - loculus	perinatal	7 mos. in utero	UND			Y	first cen. C.E.		Y
	tomb - loculus	perinatal	7 mos. in utero	UND			Y	first cen. C.E.		Y
	tomb - loculus	1-4	0-3 yrs.	UND			Y	first cen. C.E.		Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
	tomb - loculus	1-4	0-3 yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	1-4	0-3 yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	1-4	0-3 yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	5-9	3-12 yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	5-9	3-12 yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	15-19	12-20 yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	15-19	12-20 yrs.	UND			Y	first cen. C.E.		Y
	tomb - loculus	15-19	12-20 yrs.	UND			Y	first cen. C.E.		Y

Hegra Tomb IGN 117

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
	tomb - loculus	20-29	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	20-29	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	20-29	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-39	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-49	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	50+	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	40+	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	30-59	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	20-29	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	adult	20+ yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	fetus	before birth				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	perinatal	7 mos. in utero				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	perinatal	7 mos. in utero				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	perinatal	7 mos. in utero				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	perinatal	7 mos. in utero				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	0	1 mo. after birth				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	0	1 mo. after birth				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	0	1 mo. after birth				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	1-4	0-3 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y

Burial No.	Burial Structure	Age	Age Range	Sex	Body Position	Body Orientation	F	Date	Grave Goods	Looted
	tomb - loculus	1-4	0-3 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	1-4	0-3 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	1-4	0-3 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	1-4	0-3 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	1-4	0-3 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	5-9	3-12 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	5-9	3-12 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	5-9	3-12 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	5-9	3-12 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	5-9	3-12 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	5-9	3-12 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	5-9	3-12 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	10-15	12-20 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	15-19	12-20 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	15-19	12-20 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	15-19	12-20 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y
	tomb - loculus	15-19	12-20 yrs.				Y	mid-1st cen to 2nd cen C.E.		Y

APPENDIX III

Burials of Adult-Only Skeletal Remains

Site	Burial #	# Buried	Age	Age-Class	Sex	Burial Structure	Grave Goods
WM Site 4	C	1	-	Adult	IND	Shaft Grave	Ceramic fragments of fine ware cup, unguentaria, plates bowls (thin orange ware with tan slip)
Total		**1**					
WM Site 15	7	1	40+	Middle Adult	F	Tomb – Loculus	
	8	1	23-33	Young Adult	M	Tomb – Loculus	Ceramic sherds, lithics
	9	1	40-50	Middle Adult	F	Tomb – Loculus	Below cover stone was a bronze half circle and a gold seal with an Arabic inscription, an iron needle, yellow glass tesserae, green glass tubular bead, green glass oval bead
	14	1	-	Adult	M	Tomb – Loculus	
	15	2	25-35	Adult	F	Tomb – Loculus	Dark red and brown fine ware plates, unguentaria, rosette lamp frag., cooking pots, cups, jars
			33-45	Adult	F	Tomb – Loculus	2 gold earrings, lithics, dark red fine ware
Total		**6**					
WM Site 16	G	2	18-28	Adult	F	Tomb – Loculus	Vertebrae of large colubrid, fine plain orange ware
			18-35	Adult	IND		
	H	3	-	Adult	F	Tomb – Loculus	Goat tailbone, fine plain orange ware
			-	Adult	IND		
			-	Adult	IND		
	K	3	-	Adult	IND	Tomb – Loculus	Fine plain orange ware, 6 wooden objects
			-	Adult	IND		
			-	Adult	IND		
Total		**8**					
NRT	T2:1	1	20-24	Young Adult	F	Tomb – Loculus	Ceramic fragments consisting of 15 bowls, and 2 juglets
	T2:4	1	25-29	Young Adult	M		Ceramic fragments consisting of 15 bowls, and 2 juglets
	T2:5	1	50-59	Old Adult	F		Ceramic fragments consisting of 15 bowls, and 2 juglets
	T2:6	1	35-39	Middle Adult	F		Ceramic fragments consisting of 15 bowls, and 2 juglets
	T2:8	1	-	Adult	F		Ceramic fragments consisting of 15 bowls, and 2 juglets
Total		**5**					
RT	1A	2	45-50	Adult	M	Tomb – Loculus	Ceramic sherds
			30-40	Adult	IND		
	1B	1	25+	Young Adult	IND		Ceramic sherds
	4	1	25+	Young Adult	IND	Tomb – Loculus	Tombstone written in Nabataean
	5	2	40-45	Adult	IND	Tomb – Loculus	Ceramic sherds
			25+	Adult	IND		
	7	1	25+	Young Adult	IND	Tomb – Loculus	Textiles
	9	1	35-40	Middle Adult	M	Tomb – Loculus	Ceramic sherds
	10	1	30+	Young Adult	M	Tomb – Loculus	Ceramic sherds
	13	2	18-25	Adult	IND	Tomb – Loculus	Ceramic sherds
			25+	Adult	IND		Ceramic sherds
	14	1	-	Adult	IND	Tomb – Loculus	

Site	Burial #	# Buried	Age	Age-Class	Sex	Burial Structure	Grave Goods
Total		**12**					
KD	C1:II-2	1	-	Adult	IND	Tomb – Loculus	Bronze coin, terracotta lamp
	C1:II-3	1	-	Adult	IND	Tomb -Loculus	Wood frag., and nails (coffin?), 2 bronze coins, gold earring, bronze anklet, beads
	C1:II-4	1	-	Adult	IND	Tomb – Loculus	2 coins, frag. Of leather (shroud?)
	C1:II-5	1	-	Adult	IND	Tomb – Loculus	2 coins, frag. Of leather (shroud?)
	C1:IV-4	1	-	Adult	IND	Tomb – Loculus	
	C1:IV-5	1	-	Adult	IND	Tomb – Loculus	Trapezoidal coffin (?), leather frag. (shroud?)
	C1:V-1	1	-	Adult	IND	Tomb – Loculus	
	C1:V-3	1	-	Adult	IND	Tomb – Loculus	Reused stele, leather frag. (shroud?)
	C1:V-4	1	-	Adult	IND	Tomb – Loculus	Leather frag. (shroud?)
	C1:V-5	1	-	Adult	IND	Tomb – Loculus	Ring
	C1:VI-2	2	-	Adult	IND	Tomb – Loculus	Stele
			-	Adult	IND	Tomb – Loculus	
	C1:VI-3	1	-	Adult	IND	Tomb – Loculus	
	C1:VI-4	1	-	Adult	IND	Tomb – Loculus	
	C2:A	1	-	Adult	IND	Tomb – Loculus	2 bronze bracelets
	C2:E	1	-	Adult	IND	Tomb – Loculus	2 bronze earring
	C2:H	1	-	Adult	M	Tomb – Loculus	
Total		**17**					
QAIA	1	1	-	Adult	IND	Cist Grave	Rings, leather, anklet
	2	1	-	Adult	M	Cist Grave	
	3	1	50+	Old Adult	M	Cist Grave	Lead ossuary with cover, ceramic jug
	6	1	-	Adult	F	Cist Grave	Sandals
	7	1	40+	Middle Adult	F	Cist Grave	
	9	1	-	Adult	M	Cist Grave	Bronze bezel ring
	10	1	-	Adult	F	Cist Grave	Bracelet, silver pendant, silver chain, copper ring, iron bracelet, leather sandals, small clam shell, cloth remnant on iron bracelet
	11	1	16-27	Young Adult	F	Cist Grave	Cloth or leather covered whole body
	13	1	30-35	Young Adult	F	Cist Grave	
	15	1	-	Adult	IND	Cist Grave	
	16	2	21-29	Adult	M	Cist Grave	
			20-30	Adult	M		
	17	1	-	Adult	IND	Cist Grave	Leather
	19	1	-	Adult	IND	Cist Grave	
	20	1	-	Adult	IND	Cist Grave	
	21	1	-	Adult	IND	Cist Grave	
	22	2	34-39	Adult	M	Cist Grave	
			25-35	Adult	F		Leather button?
	24	1	-	Adult	IND	Cist Grave	

Site	Burial #	# Buried	Age	Age-Class	Sex	Burial Structure	Grave Goods
QAIA	25	1	30-35	Young Adult	F	Cist Grave	Leather
	26	1	-	Adult	F	Cist Grave	
	27	1	-	Adult	M	Cist Grave	
	28	1	-	Adult	IND	Cist Grave	
	29	1	-	Adult	IND	Cist Grave	
	31	1	20-35	Young Adult	IND	Cist Grave	
	35	1	25-40	Young Adult	M	Cist Grave	
	36	1	40-55	Middle Adult	F	Cist Grave	bronze bracelet, amethyst, agate, carnelian and glass beads, scaraboid amulet/bead
	37	1	50+	Old Adult	IND	Cist Grave	
	38	1	-	Adult	IND	Cist Grave	
	39	1	-	Adult	F?	Cist Grave	
	40	1	-	Adult	F?	Cist Grave	
	42	1	-	Adult	IND	Cist Grave	
	44	1	40-45	Middle Adult	M	Cist Grave	
	46	1	50+	Old Adult	F	Cist Grave	
	47	1	40-45	Middle Adult	M	Cist Grave	Within stone cist of 8 ashlar orthostatic, faience beads, bronze coin, leather sandals (disintegrated)
	48	1	-	Adult	M	Cist Grave	Leather: covers, whole, reticulate pressed decoration, cap or hood tunic, part of one full-length piece runs over legs and feet
	49	1	20-25?	Young Adult	F	Cist Grave	
	53	1	40-55	Middle Adult	M	Cist Grave	Leather sandals
	54	1	50+	Old Adult	F	Cist Grave	Leather sandals
	55	1	45+	Middle Adult	F	Cist Grave	Leather sandals
	56	1	30+	Young Adult	M	Cist Grave	
	61	1	-	Adult	F?	Cist Grave	
	63	1	40+	Middle Adult	M?	Cist Grave	
	64	1	40+	Middle Adult	F	Cist Grave	Marble alabastron, basalt rubbing stone, 12 bone hairpin frag., 3 heads, small cockle shell, iron frag., lead frag., 2 bone amulets
	66	1	-	Adult	F?	Cist Grave	Silber mirror, 19 glass beads, silver ring frag.
	67	1	35-60	Middle Adult	F	Cist Grave	Bronze anklet, bronze wire bracelet, bronze cotton cover, bone hairpin complete, 4 glass beads, 2 faience gadrooned, 2 marbled, 2 shells, 1 cowrie, 1 small cockle
	68	1	35-45	Middle Adult	F	Cist Grave	Bronze spatula, bronze cosmetic spoon, 2 bronze earrings, iron scissors?
	69	1	50+	Old Adult	F	Cist Grave	Silver coin, bronze rings, iron bracelet
	70	1	-	Adult	IND	Cist Grave	Grey stone button
	72	1	24-27	Young Adult	M	Cist Grave	
	73	2	40-50	Adult	F	Cist Grave	Copper band ring
			35-45?	Adult	M		Pair of gold shield earrings, 2 bronze rings, iron bracelet, glass vessel, pottery sherd
	74	1	35-45?	Middle Adult	F	Cist Grave	Bronze kohl tube, 2 copper and iron wound bracelets, bronze bezel ring, 2

Site	Burial #	# Buried	Age	Age-Class	Sex	Burial Structure	Grave Goods
							copper wire earring, 2 bronze pins, bone anthropomorphic amulet, 2 pair sandals
	76	1	50+	Old Adult	F	Cist Grave	2 bronze armlets, bronze knob, 2 annulets, 1 copper wire, 2 copper hoop earrings, bronze spatula frag., bone hairpin, faience amulet, leather band, sandals
	77	1	40-60	Middle Adult	IND	Cist Grave	
QAIA	81	1	40+	Middle Adult	IND	Cist Grave	
	82	1	-	Adult	F	Cist Grave	23 glass beads, leather, sandals
	86	1	50+	Old Adult	M	Cist Grave	
	87	1	50+	Old Adult	IND	Cist Grave	
	88	1	27-28	Young Adult	F	Cist Grave	
	89	1	40+	Middle Adult	IND	Cist Grave	Leather frag., clothing with impressed check pattern, copper bracelet, 25 beads
	97	1	-	Adult	F	Cist Grave	Bronze earrings, copper earing, bronze cosmetic spoon, bronze pin, iron bracelet, glass bottle, bone hairpins, 18 glass beads, leather
	98	1	25-40	Young Adult	M?	Cist Grave	Leather
	99	2	34-39	Adult	M	Cist Grave	Bronze ring, 2 glass vessels, bone pins, bone? Amulet, 2 shells, 1 cockle
			25-35	Adult	F		
	100	2	50+	Adult	F	Cist Grave	Bronze ring, iron bracelet frag., iron bezel ring? bone button
			-	Adult	F		
	101	1	40-50	Middle Adult	F	Cist Grave	
	103A	1	30-45	Middle Adult	M	Cist Grave	Iron bezel ring, leather wrapped on skill, wrappings on lower legs
	103B	1	-	Adult	F	Cist Grave	7 bone hairpins, one with bird head
	114	1	35-45	Middle Adult	M	Cist Grave	
	116	1	-	Adult	IND	Cist Grave	
	117	1	35-45	Middle Adult	F	Cist Grave	2 bronze rings, 69 beads, 41 oblate black bitumen, leather, sandals for a child
	129	1	-	Adult	IND	Cist Grave	
	130	1	-	Adult	IND	Cist Grave	
	131	1	40+	Middle Adult	M	Cist Grave	Leather frag., wood comb frag.
	136	1	-	Adult?	F?	Cist Grave	Gold earrings with pendants, bronze ring, bronze toggle pin, iron bezel ring
	137	1	40+	Middle Adult	M	Cist Grave	Leather?
	140	1	30+	Middle Adult	F	Cist Grave	2 copper armlets, 2 copper bracelet bronze pin, 26 beads, leather
	141	1	-	Adult	IND	Cist Grave	
	143	1	40-45	Middle Adult	F	Cist Grave	2 copper earrings
	146	1	40+	Middle Adult	M	Cist Grave	
	148	1	-	Adult	IND	Cist Grave	2 gadrooned faience beads
Total		**83**					
WMD&WAK	MD B 1	1	50+	Old Adult	M	Cist Grave	Textile and leather frag., linen over face
	MD C 1	1	25-59	Middle Adult	F	Cist Grave	Reddish-brown leather cover, fine white linen, yellow coarse textile, stitched leather, black hair
Total		**2**					

Site	Burial #	# Buried	Age	Age-Class	Sex	Burial Structure	Grave Goods
UJ	Z.8	1	30-40	Middle Adult	M	Pit Grave-Coffin	Metal brackets, nails
	Z.10	1	35-45	Middle Adult	F	Pit Grave	
	AA.19:010	1	35-45+	Middle Adult	F	Pit Grave-Coffin	Coffin, copper ring, nails, hinges, glass, alabaster frag., earring
	AA.19:020	1	30-40	Middle Adult	F	Pit Grave	Copper ring, coffin, nail frag.,
	AA.19:018	1	30-40	Middle Adult	M?	Pit Grave	
	AA.20:011	1	30-40	Middle Adult	M	Pit Grave-Coffin	Coffin wood
	AA.20:013	1	30-40	Middle Adult	M	Pit Grave	
	CC.1:007	2	17-25	Adult	F	Cist Grave-Coffin	Metal frag., coffin
			23-35	Adult	IND		
Total		**9**					
Total		**143**					

APPENDIX IV

Burials of Subadult-Only Skeletal Remains

Site	Burial #	# Buried	Age	Age Range	Sex	Burial Structure	Grave Goods
WM Site 4	A	1	8-14	3-12 yrs.	IND	Shaft Grave	Ceramic fragments of plates, and bowls (fine orange ware with tan slips)
	B	1	10-14	3-12 yrs.	IND	Shaft Grave	Ceramic fragments of plates, bowls, jugs and unguentaria (orange ware with tan slips, fine ribbing, and light red painted wares)
	E	1	IND	12-20 yrs.	IND	Shaft Grave	Ceramic fragments of plates, jugs (orange ware and red-on-orange fine ware)
Total		**3**					
WM Site 15	L6	1	4-6	3-12 yrs.	IND	Tomb – Loculus	Nearly complete two handled large coarse ware cooking pot (dark red painted fine ware)
	L10	1	15-18	12-20 yrs.	F	Tomb – Loculus	Blue glass tesserae, white marine sea shell bead, ceramic jar top, dark red and brown ware, plate fragments
Total		**2**					
NRT	Tomb 2: 10	1	NB	1 mo. after birth	IND	Tomb – Loculus	Ceramic frag., consisting of 15 bowls and 2 juglets
Total		**1**					
RT	2	1	5-9/ 10-14	3-12 yrs.	IND	Tomb – Loculus	Ceramic sherds
	8	1	6-7	3-12 yrs.	IND	Tomb – Loculus	Ceramic sherds, complete lamp, tombstone written in Nabataean
Total		**2**					
KD	C1:1-4	1	14-20	12-20 yrs.	IND	Tomb – Loculus	
	C2:G	1	2-4	3-12 yrs.	IND	Tomb – Loculus	Ivory bracelets, bronze band, shell pierced necklace
Total		**2**					
QAIA	5	1	IND	3-12 yrs.	F?	Cist Grave	Bronze buckle, copper and steel bracelet, fiber core, iron bracelet, glass beads
	12	1	11-14	12-20 yrs.	F	Cist Grave	Leather sandals, leather with iron grommets, cloth
	18	1	IND	3-12 yrs.	IND	Cist Grave	
	30	1	4-6	3-12 yrs.	IND	Cist Grave	Beads
	43	1	IND	3-12 yrs.	IND	Cist Grave	
	45	1	IND	3-12 yrs.	IND	Cist Grave	
	50	1	IND	3-12 yrs.	IND	Cist Grave	Iron bracelet, leather was over pressed reticulate decoration bindings and placket, straps fine applique decoration with cut-out design seam strengthened with thong one braided tassel
	51	1	IND	3-12 yrs.	IND	Cist Grave	
	52	1	IND	3-12 yrs.	IND	Cist Grave	Bronze rings, 2 silver earrings, copper ring, iron ring, copper hoop, 4 beads, 3 mollifiers, 1 white frit spherical, 1 bone amulet
	60	1	16-22	12-20 yrs.	F	Cist Grave	Terracotta figurine, silver earring, bulbous with opal, alabaster Pyxis, bronze coin, shell, 3 wooden vessels, iron bezel ring, bezel, silver ring, decoration, leather stain
	65	1	IND	3-12 yrs.	IND	Cist Grave	Gold rings of beads, carnelian, agate, and glass beads, silver spatula fragment, copper earring frag., 2 copper bracelets frag.
	71	1	10-13	3-12 yrs.	IND	Cist Grave	Grey stone button, iron bracelet frag.
	85	1	5-7	3-12 yrs.	IND	Cist Grave	Gold? Wire frag., 2 copper bracelets, bronze band, 9 glass beads

Site	Burial #	# Buried	Age	Age Range	Sex	Burial Structure	Grave Goods
	90	1	IND	12-20 yrs.	IND	Cist Grave	Beads around neck, bracelets on both arms, anklets on both legs
QAIA	91	1	IND	12-20 yrs.	IND	Cist Grave	Leather
	94	1	IND	3-12 yrs.	IND	Cist Grave	Iron bracelet frag.?
	95	1	15-19	12-20 yrs.	IND	Cist Grave	Sandals
	96	1	15-19	12-20 yrs.	IND	Cist Grave	
	102	1	IND	3-12 yrs.	IND	Cist Grave	
	104	1	4-7	3-12 yrs.	IND	Cist Grave	Terracotta figurine, button, band bracelet, vessel, leather, iron ring frag.
	112	1	16-19	12-20 yrs.	F	Cist Grave	2 glass beads, cowrie shell
	113	1	IND	3-12 yrs.	IND	Cist Grave	
	115	1	IND	3-12 yrs.	IND	Cist Grave	
	123	1	4-6	3-12 yrs.	IND	Cist Grave	Leather
	124	1	3	3-12 yrs.	IND	Cist Grave	Leather
	126	1	IND	3-12 yrs.	IND	Cist Grave	
	127	1	IND	3-12 yrs.	IND	Cist Grave	
	128	1	IND	3-12 yrs.	IND	Cist Grave	
	135	1	IND	3-12 yrs.	IND	Cist Grave	2 copper and iron bracelets
Total		**29**					
WMD and WAK	MD A 2	1	7	3-12 yrs.	M	Cist Grave	Fine leather fragments, fine stitched frag., fine white cloth, braid attached to skull
	WAK A 1	1	16-18	12-20 yrs.	F	Cist Grave	Leather frag., green beads, large beads, frag. Bone bracelet and wire
Total		**2**					
UJ	Z.4b	1	5-9	3-12 yrs.	IND	Cist Grave – Coffin	Metal foot adornment
	Z.6	1	12-18	12-20 yrs.	IND	Cist Grave	Beads, floral sample, earring metal frag.
	Z.11	1	4-6	3-12 yrs.	IND	Pit Grave - Coffin	
	AA.20:019	1	NB +/- 2 mos.	7 mos. in utero	IND	Pit Grave	Copper bracelet, bead, pendent
	CC.2:005	1	2-3	0-3 yrs.	IND	Pit Grave – Resting on a horses front leg	Skeletal remains of horse, leather +metal bridle/halter, post molds, shroud, necklace
	CC.2:007	2	9-24 mos. to 1 yr.	0-3 yrs.	IND	Cist Grave	Post molds, copper and amber earrings, glass beads, pendant w/metal clasps
			NB-1 yr.	0-3 yrs.	IND	Cist Grave – smaller pit within lager pit	Pierced saltwater shell, two earrings
Total		**7**					
Total		**48**					

APPENDIX V

Burials of Adult and Subadult Skeletal Remains

Site	Burial #	Age and Sex of Adults Present				Age and Sex of Juveniles Present				Burial Structure	Grave Goods
		# of Adults	Age	Age Range	Sex	# of Juveniles	Age	Age Range	Sex		
WM Site 4	D	2	IND IND	20+ yrs. 20+ yrs.	F IND	1	IND	12-20 yrs.	IND	Shaft Grave	Ceramic fragments of bowls, cups, cooking pots (orange ware with tan slip)
WM Site 13	1	1	20-25	20+ yrs.	F	1	IND	3-12 yrs.	IND	Shaft Grave	Ceramic fragments of bowls and cups with ring bases (red wares with tan slip); unguentaria; faunal bones (medium mammal - goat or sheep)
WM Site 15	L12	1	IND	20+ yrs.	F	1	8-14	3-12 yrs.	IND	Tomb - Loculus	10 small gold pendants, 9 beads, ceramics
WM Site 16	A	6	IND IND IND IND IND IND	20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs.	M F IND IND IND IND	3	IND IND IND	7 mos. in utero 3-12 yrs. 12-20 yrs.	IND IND IND	Tomb - Loculus	Canine paw, fine plain orange ware, 97 wooden chips
	B	4	IND IND IND IND	20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs.	M F IND IND	3	IND IND IND	3-12 yrs. 3-12 yrs. 12-20 yrs.	IND IND IND	Tomb - Loculus	Fine plain orange ware, 102 wooden chips
	C	4	IND IND IND IND	20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs.	F F IND IND	3	IND IND IND	7 mos. in utero 3-12 yrs. 12-20 yrs.	IND IND IND	Tomb - Loculus	Fine plain orange ware, terra sigilata, 15 wooden objects

Site	Burial #	Age and Sex of Adults Present				Age and Sex of Juveniles Present				Burial Structure	Grave Goods
		# of Adults	Age	Age Range	Sex	# of Juveniles	Age	Age Range	Sex		
	D	4	IND IND IND IND	20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs.	F F M IND	4	IND 6 IND 12	0-3 yrs. 3-12 yrs. 12-20 yrs. 12-20 yrs.	IND IND IND IND	Tomb - Loculus	Falcon humerus, fine plain orange ware, 159 wooden chips
	E	3	IND IND IND	20+ yrs. 20+ yrs. 20+ yrs.	F M IND	2	IND IND	3-12 yrs. 12-20 yrs.	IND IND	Tomb - Loculus	Unguentarium, fine plain orange ware, 8 wooden objects
	F	2	30 IND	20+ yrs. 20+ yrs.	F M	3	IND IND IND	7 mos. in utero 0-3 yrs. 12-20 yrs.	IND IND IND	Tomb - Loculus	Unguentarium, fine plain orange ware
	I	2	IND IND	20+ yrs. 20+ yrs.	F M	1	IND	12-20 yrs.	IND	Tomb - Loculus	Fine plain orange ware, 97 wooden chips
	J	3	IND IND IND	20+ yrs. 20+ yrs. 20+ yrs.	F M IND	1	IND	3-12 yrs.	IND	Tomb - Loculus	Fine plain orange ware, 208 wooden chips
	L	3	IND IND IND	20+ yrs. 20+ yrs. 20+ yrs.	F IND IND	2	IND IND	7 mos. in utero 12-20 yrs.	IND IND IND	Tomb - Loculus	Fine plain orange ware, piece of dark painted ware, 12 wooden chips
NRT	Tomb 1: 1-4	2	IND IND	20+ yrs. 20+ yrs.	F M	2	6 mos. - 1 yr. 3-4	0-3 yrs. 3-12 yrs.	IND IND	Tomb - Loculus	Ceramic fragments consisting of 21 bowls, 2 jars, 2 jugs, 6 juglets, 1 pitcher, 2 unguentarium, 2 cooking pots, 1 storage jar, 1 chalice
	Tomb 2: 2 + 9	1	45-49	20+ yrs.	IND	1	6 mos.	0-3 yrs.	IND	Tomb - Loculus	Ceramic fragments consisting of 15 bowls, and 2 juglets

Site	Burial #	Age and Sex of Adults Present				Age and Sex of Juveniles Present				Burial Structure	Grave Goods
		# of Adults	Age	Age Range	Sex	# of Juveniles	Age	Age Range	Sex		
	Tomb 2: Commingled	12	25-29	20+ yrs.	F	6	2-3	0-3 yrs.	IND	Tomb - Loculus	
			40-44	20+ yrs.	F		18 mos. - 2 yrs.	0-3 yrs.	IND		
			40-44	20+ yrs.	F		10-11	3-12 yrs.	IND		
			60+	20+ yrs.	F		4-5	3-12 yrs.	IND		
			45-49	20+ yrs.	M		NB-6 mos.	0-3 yrs.	IND		
			40-44	20+ yrs.	M		6 mos. - 1 yr.	0-3 yrs.	IND		
			35-39	20+ yrs.	M						
			25-26	20+ yrs.	M						
			20-24	20+ yrs.	IND						
			30-34	20+ yrs.	IND						
			25-29	20+ yrs.	IND						
			30-34	20+ yrs.	IND						
RT	12	6	25+	20+ yrs.	IND	3	6	3-12 yrs.	IND	Tomb - Loculus	Ceramic sherds
			25+	20+ yrs.	IND		8-9	3-12 yrs.	IND		
			25+	20+ yrs.	IND		16-19	12-20 yrs.	IND		
			IND	20+ yrs.	IND						
			IND	20+ yrs.	IND						
			IND	20+ yrs.	IND						
KD	C1: I 1-2	3	IND	20+ yrs.	IND	6	>1	0-3 yrs.	IND	Tomb - Loculus	
			IND	20+ yrs.	IND		1	0-3 yrs.	IND		
			IND	20+ yrs.	IND		3-5	3-12 yrs.	IND		
							3-5	3-12 yrs.	IND		
							5-9	3-12 yrs.	IND		
							7-14	3-12 yrs.	IND		

Site	Burial #	Age and Sex of Adults Present				Age and Sex of Juveniles Present				Burial Structure	Grave Goods
		# of Adults	Age	Age Range	Sex	# of Juveniles	Age	Age Range	Sex		
	C1: I-3	1	IND	20+ yrs.	IND	1	3-6	3-12 yrs.	IND	Tomb - Loculus	Iron nails (coffin?), bronze coin
	C1: I-5	3	IND IND IND	20+ yrs. 20+ yrs. 20+ yrs.	IND IND IND	4	>1 1-2 3-8 7-15	0-3 yrs. 0-3 yrs. 3-12 yrs. 12-20 yrs.	IND IND IND IND	Tomb - Loculus	
	C1: 1 A	1	IND	20+ yrs.	IND	3	IND IND IND	3-12 yrs. 3-12 yrs. 3-12 yrs.	IND IND IND	Tomb - Loculus	
	C1: II-1	4	IND IND IND IND	20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs.	IND IND IND IND	1	>2	0-3 yrs.	IND	Tomb - Loculus	
	C1: III	1	-	20+ yrs.	IND	2	2-4 -	3-12 yrs. 3-12 yrs.	IND IND	Tomb - Loculus	
	C1: Western Paving	1	IND	20+ yrs.	IND	3	>2 4 IND	0-3 yrs. 3-12 yrs. 3-12 yrs.	IND IND IND	Tomb - Western Paving	
	C1: Paving	4	IND IND IND IND	20+ yrs. 20+ yrs. 20+ yrs. 20+ yrs.	IND IND IND IND	4	IND IND >2 3-7	12-20 yrs. 12-20 yrs. 0-3 yrs. 3-12 yrs.	IND IND IND IND	Tomb - Paving	
	C1: IV-1	1	IND	20+ yrs.	IND	1	IND	3-12 yrs.	IND	Tomb - Loculus	
	C1: IV-2	1	IND	20+ yrs.	IND	1	4+	3-12 yrs.	IND	Tomb - Loculus	

Site	Burial #	Age and Sex of Adults Present				Age and Sex of Juveniles Present				Burial Structure	Grave Goods
		# of Adults	Age	Age Range	Sex	# of Juveniles	Age	Age Range	Sex		
	C1: IV-3	1	IND	20+ yrs.	IND	2	IND IND	12-20 yrs. 3-12 yrs.	IND IND	Tomb - Loculus	
	C1: VI-5	2	IND IND	20+ yrs. 20+ yrs.	IND IND	2	IND 2-4	12-20 yrs. 3-12 yrs.	IND IND	Tomb - Loculus	
	C2: C	2	IND IND	20+ yrs. 20+ yrs.	F IND	1	IND	12-20 yrs.	M	Cist in Tomb	iron ring, 2 bronze rings, comb, glass, beads
	C2: D	1	IND	20+ yrs.	IND	1	2-4	3-12 yrs.	IND	Cist in Tomb	3 pierced shells, iron belt buckle, pin, 2 bronze rings, bronze tablets, 4 frag. Of ivory rings, pearl
	C2: F	1	IND	20+ yrs.	IND	5	6-10 8-15 7-14 3-5 6-11	3-12 yrs. 3-12 yrs. 3-12 yrs. 3-12 yrs. 3-12 yrs.	IND IND IND IND IND	Cist in Tomb	Stone bead necklace, bronze ring, bronze band, silver ring, iron bracelet, necklace of stone beads, ivory, small glass jug, 5 pierced shell, glass beads, bracelet stone beads, stone beads, silver earring, bronze earring, stone beads
QAIA	14	1	IND	20+ yrs.	F	1	16-20	12-20 yrs.	F	Cist Grave	2 bronze bracelets, bronze ring, glass bracelet, glass vessel
	58	1	25-40	20+ yrs.	F	1	Fetus	before birth	IND	Cist Grave	Beads, 2 shells, 1 cowrie, 1 cockle, leather stain
	75	2	45+ 20-27	20+ yrs. 20+ yrs.	F F	1	14-19	12-20 yrs.	IND	Cist Grave	Copper bracelet, 2 bronze spatula, bronze kohl tube, bone bead, iron bracelet frag., iron bezel ring, 2 glass vials, glass goblet lid, glass globe, 5+ hair-pins, 1 oval head, bone needle, ivory spindle and whorl, jet necklace, pearl oyster shell, 2 cowrie shells, leather band 2 gold disc earrings, 4 glass bracelets, glass finger ring
	105	2	IND 30-45	20+ yrs. 20+ yrs.	M F	1	IND	3-12 yrs.	IND	Cist Grave	4 glasses vessels, copper twist bracelet, copper annulet frag., copper earring frag., iron bezel ring

Site	Burial #	Age and Sex of Adults Present				Age and Sex of Juveniles Present				Burial Structure	Grave Goods
		# of Adults	Age	Age Range	Sex	# of Juveniles	Age	Age Range	Sex		
	111Children onChests of Adults	2	40-55 25-26	20+ yrs. 20+ yrs.	M M	2	1-3 NB	0-3 yrs. 1 mo. after birth	IND IND	Cist Grave	Copper and iron bracelet, leather full-length garment or shroud, gold earring
	121 child in arms of adult	1	IND	20+ yrs.	IND	1	IND	3-12 yrs.	IND	Cist Grave	
	122	1	50+	20+ yrs.	IND	1	IND	3-12 yrs.	IND	Cist Grave	Leather
	133	1	IND	20+ yrs.	M	2	18-21 IND	12-20 yrs. 3-12 yrs.	F IND	Cist Grave	Copper hoop earring frag., rim sherd, leather
UJ	Z.4a	1	IND	20+ yrs.	IND	1	IND	12-20 yrs.	IND	Pit Grave	
	Z.7	1	27-35	20+ yrs.	M	1	14-16	12-20 yrs.	F	Cist Grave-Coffin	Nails, ring
	AA.19:017	2	35-45 35-45	20+ yrs. 20+ yrs.	M F	1	17-23	12-20 yrs.	F	Pit Grave	
	AA.20:009 AA.20:015	2	20-27 25-35+	20+ yrs. 20+ yrs.	M F	1	14-18	12-20 yrs.	F	Pit Grave	
	AA.21:009	1	25+	20+ yrs.	F	1	4 +/- 12 mos.	3-12 yrs.	IND	Pit Grave	
	AA.23:008 AA.23:009	3	17-25 45+ 25-35	20+ yrs. 20+ yrs. 20+ yrs.	M F M	1	4 +/- 12 mos.	3-12 yrs.	IND	Cist Grave	Goat hair shroud, copper bracelet
	CC.2:006	3	20-30 30-40+ 40-50	20+ yrs. 20+ yrs. 20+ yrs.	M F M	1	14-18	12-20 yrs.	F	Cist Grave	Glass frag., copper ring, leather sandals, ash, coffin or shroud, glass bracelet, rings, beads, earrings