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iPosture: A Closer Look at the Lifestyle Practices of Jewish Israeli School Children

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts (M.A.)

by

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Abstract

This research explored the relationship between class, lifestyle, and body posture among Jewish Israeli schoolchildren. Despite the role upright posture plays in good musculoskeletal health, postural balance and alignment have become nearly obsolete in Western culture. Body constraints and subsequent poor posture stemming from the overindulgence, or lack thereof, of certain lifestyle practices (such as technology usage, exercise, and diet) might be the outcome of belonging to a specific class. This research set out to investigate these lifestyle practices and determine their influences on the postures of both working class and middle-upper class Jewish Israeli schoolchildren. This study also aimed to answer the question of whether children from lower SES groups had less exposure to electronic devises (such as TV, computer, phone, and tablet) than children from higher SES groups, and consequently spent their time outside of school being more physically active, thus exhibiting better posture as a result. While there has been some discourse in current literature regarding the plethora of hours children spend in sedentary activities, the materialization of those behaviors into posture has been largely ignored. There is still a gap in the literature regarding the impact of posture on health, the implications of different types of posture on the body, and most notably, the influence of lifestyle practices on postural health. This research intended to fill in these gaps by underscoring the health significance of posture as well as illustrating a clear relationship between lifestyle practices and posture for two different class groups.

The notion of lifestyle in this study was explored through Max Weber's account of socioeconomic status in his concept of 'status honor' as well as his analysis of the habits of the masses. Additionally, Pierre Bourdieu's conception of 'habitus' and 'cultural habitus' provided the premise for examining lifestyle practices in this study. Furthermore, this study relied heavily on Bourdieu's cultural approach to structural inequality.

Observations for this research took place over the course 4 months. Visits were made to sites for both the working class and middle-upper class groups. The participants were comprised of an aggregate of two groups of children that were between the ages of 10-11.5 (5th-6th grade). The first group, the working class children, consisted of nine students from a public school in a low income area in a city located in the center of Israel. The predominant ethnicities of the students in the class were Ethiopian and Russian descent. The second group, the middle-upper class children, consisted of seven students that were former private students of mine to whom I taught English lessons in the past. They all lived within 5 kilometers of each other in an affluent neighborhood in a city located in the center of Israel. The predominant ethnicity of most of these participants was Polish, with the exception of one who was of mixed ethnicity (Iraqi/Czech). This study examined the disparity between these two populations and the subsequent variance within their lifestyle practices.

Data was collected through the traditional anthropological methods of participant observation and interviews while also utilizing the empirical methods of postural assessment by means of postural exercises, photographs, and quantifying questionnaires. Because this research used triangulation, where both the qualitative and quantitative approaches were applied, postural assessment was comprised of several components. Observations of the participants at their respective sites (school and home), the postural exercises they performed, photographs taken of them during those exercises, and additional data gathered from the questionnaires, interviews and discussions were all used for postural assessment. Their postures during the exercises and subsequent photographs were analyzed based on the principals of the Alexander Technique, an educational tool for postural rehabilitation. Moreover, guidelines for assessing posture were introduced.

The results for the working class group found that the majority had excellent or moderately good posture. For the middle-upper class group, the vast majority illustrated average and poor posture. Additionally, the working class group was more physically active overall than the middle-upper class

group, spending an average of 3 hours more a week doing physical activities. While both groups spent about the same amount of time engaging in sedentary activities, the working class group spent 4 hours less in front of the TV and 3.5 hours less in front of the computer than the middle-upper class group. However, the working class group spent an average of 6 hours more a week using the phone. Despite the high amount of phone usage found in the working class group, they still maintained an overall lower ratio of sedentary activity to physical activity. The ratio of sedentary activity to physical activity for the working class group was 2.96:1 hours per week while the ratio for the middle-upper class group was 4.54:1 hours per week.

The differences in diet between both groups also found the working class group to have better eating habits than the middle-upper class group. Five out of eight participants in the working class group never ate fast food, whereas only one out of the seven participants in the middle-upper class group never ate fast food. Almost all of the working class participants described eating home cooked meals in contrast to the middle-upper class group who ate out more frequently.

These results suggest that Bourdieu's premise for class differences as indication for cultural habits were evident through the participants' lifestyle practices and their accessibility to specific components. Namely, the findings corroborated the influence of social status on lifestyle practices as all of the participants from the middle-upper class group had access to a TV, computer, phone and tablet at home, whereas nearly half of the participants from the working class group didn't have access to either a TV, computer or tablet. In this study, access and usage of several electronic devices not only highlights the disparity in posture between both groups but also underscores the component of class in these findings. Moreover, while phones were the only electronic device that all of the participants in the working class group had access to, this device alone was not enough influence the overall postural state of the majority of the participants in this group. For this reason, the prevalence of iPosture, an emblem for the problematic and poor posture of a techno-savvy culture, is more evident in the middle-upper class

students—whose lives are engulfed in today's technologically saturated age-- than the poor Russian and Ethiopian students that make up the working class group. Significantly, the working class group's limited access to a variety of electronic devices is indicative not only of their class, but also of their better postures.

The compelling differences between both groups and even within the working class group require continued research. Furthermore, the emergence of Western influences on a population comprised of immigrant groups that were previously isolated, cannot be ignored and needs to be examined further.

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I. Introduction

The study of human behavior and health is deeply personal to me. It is rooted in more than 15 years of experience, study, and teaching English as well as a postural rehabilitative method called the Alexander Technique. Coupled with an equally profound appreciation of cultures that I have cultivated from over a decade of living abroad and immigrating to Israel- as well as a desire to improve upon methodologies in what is often a niche field, I will be focusing my research on musculoskeletal health across distinct populations – working class and affluent youth in Israel. Through the comparison of lifestyle behaviors and, specifically, posture among Jewish Israeli school children both in and out of the classroom, I aim to illustrate how certain cultural habitus (reflected in lifestyle practices such as diet, exercise levels and technology usage) explain children's postures, which in turn provide insight to their health and development.

Despite the inclusion of the 'body' in sociological discourse today, there are several problems with the current literature on body and culture. For one thing, classical sociology previously believed that the body belonged mainly to biology. This was largely attributed to the studies conducted by early anthropologists who classified the body in biological terms which resulted in the race theories of the nineteenth century and early twentieth century. Consequently, examining the physicality of the body through an anthropological perspective has been largely avoided. Subsequently, the lack of literature in sociology addressing the body in biological terms is also evident (Williams 2006).

Though discussions relating to the 'body' are being taken quite seriously in sociological inquiry, elucidating the 'meaning' of the body in sociocultural terms has become a problem for 'linguistic, cultural and social analysis.' "Social and cultural events have provoked the claim that we live in a 'somatic society,'" namely we live in a society where political and personal problems are

problematized within the body and expressed through it (Hancock 2000). While Mary Douglas, Pierre Bourdieu, Michel Foucault, Judith Butler and countless others have successfully described the body through symbolic, performative, stratifying, and political terms, the literature has failed to specify or acknowledge the fixed essence of the body. Performative theory helps delineate status and power roles by the way a person uses certain gestures or movements as "performativity allows for a keen understanding of how subjects come to mark and reify their identities through enactment (Butler 1999)." However, this does little to help understand what sociocultural factors contribute to the more fixed structure of our bodies that we refer to as 'posture.' Can class and status differences alone be attributed to varying postures? Or are there specific lifestyle behaviors that are embedded in our culture and practiced habitually that could help explain the different postures that are evident among Jewish Israeli youth?

Since no research has yet been conducted to address specific postures in Israel, and subsequently there is no explanation for the increase of muscular-skeletal problems among school children, programs for intervention-- such as ergonomics—which are mainly used in work environments for adults, are making their way into the school system. This is problematic as well, because the program admittedly acknowledges that movement patterns and habits become ingrained over the course of years and are unlikely to change through such programs (Heyman 2009).

It seems logical that one might search for answers regarding posture in the medical literature, as posture often evokes images of 'back problems.' However, that is all the current literature in the medical field seems to be preoccupied with. This makes sense, since back pain is one of the most frequent reasons for visits to the physician and causes for surgical procedures (Andersson 1999). However, the lack of sociocultural studies regarding posture illustrates the present void in the literature addressing the social and cross-cultural influences addressing postural health. Therefore, in my

research, I aim to further exemplify the detriments of poor posture, or namely poor musculoskeletal health, through the various lifestyle practices exhibited by Jewish Israeli school children in distinct populations. I will expand on Bourdieu's concept of *habitus* as the 'embodiment' of cultural representations in human habits and routines and reify his basis for a cultural approach to structural inequality (Bourdieu 1977). However, unlike Bourdieu, I will use this basis to examine the certain cultural habitus that explain postural health and also offer a different perspective on structural inequality among Jewish Israeli school children. Subsequently, my research will illustrate how paramount discourse on postural health is to existing sociocultural literature. Furthermore, by introducing the guidelines for what is considered 'good posture' based on the principles of an educational and postural improvement method --the Alexander Technique—I will use its criteria to interpret children's postures and explain them by addressing the lifestyle practices that are most prominent among working class and affluent populations. I will also be introducing 'postural habitus' as a concept that I will develop further to illustrate the differing embodiments of the habits that we acquire through life that are manifested through the body.

II. Review of Literature

Lifestyle

The role of lifestyle in sociological theory began as early as the 19th century. American sociologist, William Cockerham, (1993) described the earlier discourse between class and status through the likes of Karl Marx's differentiation of the classes, to Thorstein Veblen's theory of the leisure class, and finally Max Weber's account of lifestyle in relation to socioeconomic status. Furthermore, Weber's notion of 'status honor' was used as a distinguishing trait of status that only granted certain groups the prestige associated with particular lifestyles. As Cockerham clarifies, "Weber made the particularly pertinent observation that lifestyles were based not so much on what a person produced, but on what he or she consumed. Thus, for Weber, the difference between status groups did not lie in their relationship to the means of production but in their relationship to the means of consumption." Though this explains why Weber's primary focus was the rise of capitalism, his real contribution to the concept of 'lifestyle' was in the way he used it synonymously with 'life conduct'-- namely the choices people had in selecting their lifestyles (Cockerham 1993).

Albeit somewhat limited, Weber's discussion of 'life conduct' did provide a great deal of context for his explanation of the 'legal order' as a "complex of actual determinants of human conduct" (1968) and offers remarkable acumen into the habits of the 'masses.' He postulated that "the broad mass of participants act in a way corresponding to legal norms, not out of obedience regarded as legal obligation, but either because the environment approves of the conduct and disapproves of its opposite, or merely as a result of unreflective habituation to a regularity of life that has engraved itself as a custom." This is of particular relevance to my own research query, as it offers insight in to how

‘unreflective’ or often unconscious patterns of behaviors become customs, or cultural habitus. Weber (1978) further contends that custom is “a typically uniform activity which is kept on the beaten track simply because men are ‘accustomed’…it is a collective way of acting.”

This is of course best delineated when looking at lifestyle through the lens of Pierre Bourdieu. His concept of *habitus* permits a focus on the ‘embodiment’ of cultural representations in human habits and routines and offers a possible basis for a cultural approach to structural inequality. *Habitus* is defined as a set of acquired dispositions of thought, behavior and taste which constitute the link between social structures and social practice [or social action] (Bourdieu 1977). It is a product of early childhood experience, and in particular socialization within the family; however, it is continually re-structured by individuals' encounters with the outside world (Di Maggio 1979).

Schooling, in particular, acts to provide a general disposition, a turn towards what Bourdieu terms ‘a cultured habitus’ (Bourdieu 1967). His concept of cultural capital, such as education which in turn promotes social mobility, illustrates how schools draw unevenly on the social and cultural resources of members of the society. For instance, children from higher social locations enter schools already familiar with certain social arrangements (cultural capital) and Bourdieu maintains that the cultural experiences in the home facilitate children’s adjustment to school and academic achievement, thereby transforming cultural resources into cultural capital (Lareau 1987). Thus the social class inequalities of our school system are too evident to be denied (Bowles 2011).

Moreover, Bourdieu (1967) described ‘school’ as a ‘habit-forming force’ and ‘schooling,’ in particular, as one that acts to provide a general disposition, “generating particular patterns that can be applied in different areas of thought and action” hence what Bourdieu termed, ‘a cultured habitus.’ This is significant to my own research as it illustrates how even though certain lifestyle practices may have

originally stemmed from specific classes and statuses, our cultural habitus remains the biggest impetus. As Bourdieu further posits:

> In a society where the handing on of culture is monopolized by a school, the hidden affinities uniting the works of man (and at the same time, modes of conduct and thought) derive from the institution of the school, whose function is consciously (and also, in part, unconsciously) to transmit the unconscious, or to be more precise to produce individuals equipped with the system of unconscious (or deeply buried) master-patterns that constitute their culture.

What Bourdieu described so pertinently still holds true today, as school continues to be the strongest cultural habitus for the behaviors of children all over the world. Children from Western cultures spend the majority of their waking hours in school, and one has to wonder what the most habit-forming behavior that is learned there is. In Israel, the average Israeli school aged child spends between 5-7 hours a day and 6 days a week in school (some days like Fridays—the day before the Sabbath- are shorter). The majority of the day is spent sitting in a chair. Therefore, the most habit-forming, frequent and prolonged behavior is sedentary behavior, which is practiced in the classroom daily and over the duration of many years.

Since Israel's entire existence relies on continued mass immigration, thus making it is one of the most diverse countries in the world, one of the most unifying premises behind the Zionist Revolution, was to return the Jewish people to the land of Israel where they could work the land and restore the health of their Jewish bodies which were perceived as weak in the diaspora (Weiss 2004). This was a dominant discourse from the early twentieth century, but it is interesting to note how the posture of the "muscle Jew" from the Zionist Revolution has today been replaced with the 21st century sedentary posture of the "high-tech Jew" also known as "iPosture", or the poor posture resulting from the use of various technology such as mobile phones (Mientka 2013). This is ironic, because the plethora of problems associated with iPosture contradict the model of a healthy body. In fact, they only highlight

why it is imperative to study children, Israel's next generation of postural health, during this technologically saturated era and examine how the dream of a healthy Jewish body has not been realized at all.

Furthermore, with schools continuing to create and reinforce patterns of social class by fostering personal development compatible with the relationships of dominance and subordinacy in the economic sphere (Bowles et al., 2009) and Ashkenazi Jews acting as the dominant group (Khattab 2005) access to technology—another cultural capital-- further reinforces and perpetuates the imbalance of the class structure in Israel. It also perpetuates another type of imbalance—that of the spine. Technological devices force one into a stationary position whether they stand or sit, so while technology may present itself as an opportunity to climb up the social ladder, it literally and physically brings the body down. Therefore, while discussing technology as a cultural capital, I do so with a caveat about the other detrimental implications of the use of technological devices.

Frequent Israeli internet users tend to be on average younger, have parents with a higher income than non-frequent users, and are of Western origin (Mesch 2001). However, being of Western origin alone does not ascribe one to a higher status, although it can increase the chances of acquiring upward mobility if one adheres to the norms of the dominant culture. This was made evident in a study led by Nelly Elias (2009) from Ben-Gurion University. In the study Elias examined one of Israel's poorer populations-- immigrants from the former Soviet Union—and described internet usage among the Russian youth who arrived in Israel as part of the 1 million immigration wave. The findings of her study highlighted the values of the dominant culture—namely Ashkenazi Jews (Khattab 2005)—by delineating how Russian youth sought out internet usage as a mode of gaining upward mobility and using it as cultural capital. Of the 70 participants in the study, only 15 had access to the internet prior to

immigrating to Israel but 62 found access to it after migration. The decision to seek out internet usage clearly underscores how it is used as a vehicle for increasing status and power.

Elias's findings were further corroborated by a later study also conducted by Mesch (2012) where he tested the diversification hypothesis that argues that minorities and immigrants will be more likely to use computer-mediated communication to compensate for their lack of social capital. While both of Mesch's studies offered insight as to how and why minority and disadvantaged groups used the internet to gain upward mobility, his later study neglected to specify or include the group of immigrants who are the most underrepresented in Israel, namely, the Ethiopian population. This is troublesome on a number of levels and also indicates how the Ethiopian community is continuously overlooked in research and thus perpetually marginalized.

The history of the Ethiopian migration to Israel is extremely complicated and rooted in matters of nationality, ethnicity and race. They were treated disparately from other immigrant groups, absorbed unequally and segregated to inferior schools. The devastating blow of inexorable discrimination relegated the Ethiopian population to the poorest community in Israel (Lazin 2002).

As a result, the Ethiopian community has remained somewhat isolated (Offer 2007) and therefore more current and imminent research pertaining to their lifestyle practices in Israel, such as the Ethiopian population's use of the internet, is nonexistent. This is troubling, as the Ethiopian community's unique positioning in Israeli culture makes them an extremely interesting group for study, particularly with regards to my own research. Furthermore, the literature that is currently available about the Ethiopian population in Israel is quite disconcerting. Ethiopian Jews were once admired for their lean physique and healthy eating habits. However, studies are now suggesting that after living in Israel for just an average of 14 years, the Ethiopian body mass index was similar to the general Israeli population—that is heavily influenced by the Western diet--with 11% categorized as obese. Furthermore, the study found

that Ethiopian Jews were at high risk for developing nutrition related chronic diseases (Regev-Tobias 2012). This was further compounded by another study illustrating the huge rise of gastrointestinal diseases as an "emergent disease" among Ethiopian Jews who have moved to Israel. According to gastroenterologist, Dr. Ariella Shitri, "This community can develop these kinds of diseases even though it is very uncommon in Ethiopia (Dolgin 2015)." These kinds of studies beg the question of what exactly is so different in Westernized eating habits that are common in Israel, that could cause such rapid health changes in an otherwise seemingly fit population.

As Israeli sociologists continue to regard ethnic cleavages as one of the main axes of stratification in Israel (Yaish 2001), the Russian and Ethiopian communities exemplify the disparity within some of the poorest populations in Israel. Therefore, it is important to highlight how structural and cultural inequality come into play in a country like Israel where absorption and upward mobility are contingent upon the ethnicity of the dominant culture. As noted by Mesch's studies and further emphasized in Elias's study, internet usage is certainly used and seen as a form of cultural capital of those coming from Western origin.

These findings are in line with previous discussions about class inequality, but they fail to illustrate other important factors regarding class differences. For one, they focus entirely on social mobility and ignore other paramount issues such as health. Furthermore, as our world has become rife with technology, productive techniques and knowledge have moved inwards to invade, reconstruct and dominate the very contents of the body. This raises the possibility that the spatial and functional arrangements of the organic properties of our bodies have been altered in line with the structures of society (Shilling 2004). This personifies how culture essentially constructs the way we perceive and use our bodies, particularly in this age of omnipresent technology.

More notably, diminished health is also becoming a trait common to Western lifestyle practices. While technology is presumed to be a form of capital that leads to upward mobility or preserves existing status, its widespread use could also lead to lifestyle practices that are even more detrimental to the musculoskeletal system—as was previously mentioned with regards to iPosture.

Perhaps most significantly, as children represent the future and continue to spend a great deal of time sitting in the classroom and hunched over electronic devices--both in and out of the classroom--it is imperative that research be conducted to probe the consequences of sedentary behaviors and address lifestyle practices such as technology usage to explain what this means for their postural health. Furthermore, other lifestyle practices exhibited by different classes, such as diet and exercise levels, must also be explored as they too present their own impact on musculoskeletal health. Therefore, I aim to examine how these three specific lifestyle practices: diet, exercise levels and technology usage, may play a role in postural health among middle-upper class and working class Jewish children in Israel.

Lifestyle Practices

One example of how posture is affected by lifestyle practices can be seen in unhealthy eating habits such as overeating or consuming an excess of nutrient deficient food which have contributed to the rapid growth of obesity among young children, not only as we shall see in North America and Europe but also in some developing countries. Today, children weigh more and have more body fat than their counterparts 30 years ago (McWhorter 2003). In 2010, surveys from 144 countries were analyzed and found that 43 million children (35 million in developing countries) were estimated to be obese and 92 million were at risk of being overweight (De Onis et al. 2010). An obese body has

restricted movement (Gilleard and Smith 2006) and its distribution of weight in the body and the impact that it has on the musculoskeletal system is detrimental.

As obesity has become a well-documented epidemic (Hamdy 2003), a number of studies have addressed the relationship between socioeconomic status (SES) and obesity (Sobal 1989 & 1991; Wang 2001 & 2006; Brownell 2004; Monteiro 2004; McLaren 2007). Older studies supported the view that obesity in the developing world was a disease of those with higher SES, but more recent studies suggest that obesity in the developing world cannot be linked with higher SES (Monteiro 2004). In fact, the contrary was found to be true, with some studies exhibiting the significantly elevated risks of developing obesity by children from lower income families. (Strauss 1999). However, the research is still evolving and the current findings are somewhat inconclusive and confounding (Wang 2006). This could be attributed to the fact that many developing countries lack any data on physical activity levels in their populations (Guthold 2008). What has become quite clear, however, is the effect that excessive unhealthy eating habits have had on our bodies. Namely, "obesity is associated with a number of musculoskeletal conditions and is responsible for significant disability and impaired quality of life (Anandacoomarasamy 2007)."

Likewise, lack of exercise has also played a role in the detriments to musculoskeletal health. Lack of exercise is also determined by cultural and social norms and consciousness. Western lifestyles are notoriously sedentary and "there is a 'moral panic' concerning the 'couch kids' culture in modern western society (Biddle 2004)." To further exemplify these lifestyle practices in Western cultures, a US study found that children and adults spend at least 55% of their waking hours or 7.7 hours a day in sedentary behaviors (Matthews 2008) and children between the ages of 5 and 16 are likely to spend about 15,000 hours sitting down (BackCare 2014). McWhorter (2003) mentions a study by McArdle, Katch and Katch which found that children between the ages of 6 and 11 spent an

average of 26 hours a week watching TV, namely as much time as they do attending school. As McWhorter notes:

> Many people assume that children are naturally active and participate readily in physical activities that lead to and help them maintain high levels of fitness during their early years. However, society has changed to encourage a more sedentary lifestyle. Children's activity levels decline through the teenage years, with girls being less active than boys. Today there is a greater availability of sedentary pursuits that can lure children away from physical activities.

This is a great cause for concern as the number of children who have adopted a sedentary lifestyle has contributed to major health problems aside from obesity such as asthma, diabetes, hypertension and coronary disease (DeMarco & Sidney 1989). Additionally, finger and wrist pain (caused by too much texting on phones) can lead to soreness and cramping in the fingers known as "text claw." Also neck and back soreness, and vision and hearing impairment are all on the rise (Samakow & Lebovich 2013). To make matters worse, even bedtime has been hindered by the Western technology saturated lifestyle. A 2010 Pew Study found that more than 4 in 5 teens with cell phones sleep with the phone on or near the bed (Lenhart et al., 2010) and according to researchers from JFK Medical Center, teens send an average of 34 texts a night after going to bed. The latter study found that half of the kids kept awake by electronic media suffered from a host of mood and cognitive problems, including attention deficit hyperactivity disorder, anxiety, depression and learning difficulties (Kelly 2010).

Technology's role in affecting musculoskeletal health has become incrementally detrimental to posture, as most devices such as computers, phones and televisions, compel one to sit down or at the very least slouch over. One of the clear indicators of economic differences pertaining to both individuals and countries is the level of technology usage. Screen time (namely any time spent in front of a device with a screen) has increased dramatically over the past 20 years. In 2003 nearly 6 in 10

working adults used a computer in school (kindergarten through grade 12). Between 1989 and 2009, the number of households with a computer and Internet access increased from 15% to 69% (Owen 2010). Additionally, with Israel being one of the world's most technologically-literate populations, around 5.3 million people had internet access by 2010 (InternetWorldStats). The total population of Israel in 2010 was listed as 7,623,600 (TheWorldBankData), so roughly 70% of the population had internet access.

In Western cultures like Israel, where technology is so pervasive and often leads to excessive sedentary behaviors, the musculoskeletal system is often seriously aggravated as a result. In a recent survey conducted in the United Kingdom, some 84 percent of young adults say they've suffered back pain during the past year, believed to be caused by poor posture from using mobile devices. This phenomenon has been dubbed "iPosture" (Mientka 2013). The average human head weighs 10 pounds in a neutral position -- when your ears are over your shoulders. For every inch you tilt your head forward, the pressure on your spine doubles. So if you're looking at a smartphone in your lap, your neck is holding up what feels like 20 or 30 pounds (Wilson 2012).

In contrast, in less technologically centered lifestyle practices, such as those found in cultures from developing regions, the physical labor required to complete daily tasks demands much more movement and an upright posture, but without the triggers that disorient the body. In urban and rural Africa, wherever transport services are deficient or unaffordable for households, much everyday transport work is achieved through walking for substantial lengths of time while carrying heavy vases on their heads, or head-loading (Porter et. al 2013). It has been suggested that load-carrying may have beneficial impacts on bone quality/density (though this will also be dependent on mineral uptake and bone turnover). Recent research by Lloyd, Hind, Micklesfield, et al. (2010) on a small cohort of women in South Africa suggests that head-loading 'may offer osteogenic benefits to the

spine.' Furthermore, the native African's capacity for engaging in demanding physical activity, while remaining upright, greatly surpassed that of those in Western cultures (Tetley 2000).

However, this is not to suggest that the African native is exemplary of stellar health. We must underscore that a desired healthy posture interacts with the quality and amount of food, medication, air quality, work conditions and many other variables related to political and economic global and local exploitations or possibilities. Musculoskeletal health conditions such as rheumatic diseases often result from infection and usually go untreated due to health care challenges in Africa perpetuated by political warfare and low income (Gabriel 2010). So while one might see the African model as ideal in regards to certain aspects of postural health, there are other factors that need to be taken into consideration as well.

Moreover, while the latter research may suggest that specific lifestyle factors could play a role in postural health, it is important to note, that there are problematic implications in suggesting that cultures that have less technology have better posture. For one thing, it insinuates that those cultures with less technology are "less developed" and while that may lead to a positive association regarding posture, it may present a negative connotation and backlash to race theories of the nineteenth century and early twentieth century races, which were classified in biological terms. Therefore, I emphasize that in my work I resist the liberal language of "progress" and "modernism" or cultural dualism and dichotomy between "developed and "non-developed" countries, and prefer to regard lifestyle practices as a form of reality contingent on class practices which are affecting people's bodily habits, or *habitus* (Bourdieu 1977).

In addition, I will discuss the current literature that uses body performance as a way to delineate status and power roles through the way a person uses certain gestures or movements. While I reiterate that this discourse is incomplete with regards to the sociocultural factors contributing to posture as a

fixed structure, it does offer insight into how society shapes and forms some facets of the *habitus* we enact.

Body Performance

In Susan Bordo's (2003) discussion of the feminists' critique of "politics of the body", she describes what Marx and later Foucault had in mind in focusing on the "direct grip" that culture has on our bodies, through the practices and bodily habits of everyday life. "Through routine, habitual activity, our bodies learn what is 'inner' and what is 'outer,' which gestures are forbidden and which are required, how violable or inviolable are the boundaries of our bodies, how much space around the bodies may be claimed, and so on." Marx explained that a person's economic class affected his or her definition of the body, and Foucault further ascertained these arguments in his analysis of the body being the focal point for struggles over the shape of power. "Population size, gender formation, the control of children and those thought to be deviant from the society's ethics are major concerns of the political organization—and all concentrate on the definition and shaping of the body. Hancock (2000) further typifies Foucault's view that the body is molded by 'a great many distinct regimes.' It is an outcome of the play of power, and power 'reaches into the very grain of individuals, touches their bodies and inserts itself into their actions and attitudes, their discourses, learning processes and everyday lives.'

Of course this is concerning when examining iPosture among school children. What should be regarded as an obvious form of destructive behavior (iPosture) is overshadowed by the layers of social and cultural capital that provide the dominant class with validation for 'hunching over their devices' because it is a marker of status, even if it negatively impacts their posture. Meanwhile, children that run around the playground during recess are viewed as not engaging in higher class

practices thus reifying their positioning, even though they are exhibiting behaviors that are much more conducive to better postural health.

This premise, compounded by Judith Butler's theory of performativity, illustrates how class and status shape our perception of which acts to perform. Butler's notion of "stylized repetition of acts" (1999) explains how certain acts such as gestures, habits, movements, patterns of talk and other modes of communication form one's very own subjectivity. According to Butler this suggests that performativity illustrates how subjects come to mark and reify their identities through enactment and how the performative theory of identity understands the subject to be essentially unstable, never natural and thus constructed through embodied actions. This is useful when examining markers such as gender, class, race and sexuality that are constantly constructed and reconstructed through the continual performance of those markers. However, because "performativity denies, in some fundamental ways, the stability of identity," it falls short in providing a more durable explanation for the more fixed identities of the body—such a posture, which is comprised not only of the aforementioned markers, but is also formed by various lifestyle practices that are deeply embedded in the body and cannot be constructed or reconstructed through a single act.

Body Work as Explained by Shilling and Bourdieu

Body work can be best described as a "means for further developing the sociology of the body." Shilling suggests that human biology is formed by social factors, and is therefore enmeshed within, receptive to, and affected by social relationships and events. In his view, the environment is 'written on the body' (Gimlin 2007). The reification of these deeply ingrained social factors as inextricable

components of the body is personified through his claim that it "may be easier to reconstruct bones and even re-grow flesh than to change deep-rooted habits (2012)."

Bourdieu's explanation of body work through the subconscious helps further clarify body work with regards to what is 'written within the body'. As Bourdieu deduced, "There are a great many things that we understand only with our bodies, at a sub-conscious level without having the words to say them (Bourdieu 1988)."

Our lifelong habits, which are exemplified in our lifestyle practices, are deeply embedded in our 'selves' and manifest from thoughts into our bodies producing desired or undesired postures. Our bodies do not memorize the past, they enact the past, bringing it back to life. "What is 'learned by the body' is not something that one has, like knowledge that can be brandished. But something that one is…it is never detached from the body that bears it… (Bourdieu 1990)." The body is therefore mingled with all of the knowledge it reproduces (Havelock 1963).

Postural Habitus

The concept of *postural habitus* relies heavily on Bourdieu's concept of *habitus*, though somewhat inversely. As noted earlier, *habitus* permits a focus on the 'embodiment' of cultural representations in human habits and routines (Bourdieu 1977). *Postural habitus* can be viewed as the body's physical manifestation of the habits that we acquire through life. Namely, our habits shape and mold the way we hold our bodies. If I were to apply the principle of 'cultural capital' as Bourdieu did, but rather than use it to explain a form of 'cultural capital' such as education (which in turn promotes social mobility), I would like to introduce the concept of 'cultural postural capital,' and clarify that having more 'cultural postural capital' demotes physical mobility. How does one

acquire this ‘cultural postural capital?’ Through various lifestyle practices, particularly the ones mentioned thus far: eating habits, exercise levels and technology usage. Overindulging in any one of these practices (even exercise) can have a detrimental effect on posture. For example, a person who is overweight, wears a knee brace from having run excessively over the years, and walks hunched over as a result of spending many hours in front of a screen everyday has more ‘cultural postural capital’ than someone, who is of average weight, walks upright and exhibits fluidity and balance in their bodies. In this sense, having more ‘cultural postural capital’ that is acquired through excessive exposure to stimuli and the body’s reaction to it, works inversely with good postural health. The less ‘cultural postural capital’ one accumulates through life, the more mobile they are, and the freer their bodies are from stress and tension.

If we compare the human body with that of any four-legged animal, we can clearly see that animals move with greater ease. This is because as the animal walks forward, the head is in a direct horizontal line with the spine. The movement of the head goes in the same direction as the movement of the body. Infants crawl in the same manner, with their heads leading and their bodies following. They move freely and without undue tension. They sit upright, bend at the knees and lengthen their spine naturally. Both animals and infants have very little ‘cultural postural capital’. As infants grow older much of their ‘freeness’ is destroyed.

As we age and are exposed to more stimuli, we respond with tension that interferes with our movement. Children have not yet developed the many habits that we have as adults, therefore it is easier for them to rid themselves of habits and allow their bodies to do what they naturally want to do. As adults this process is more difficult as we have accumulated and held on to many habits that were acquired through various lifestyle practices throughout the years.

In my research, I will argue that more 'cultural postural capital' will be inversely related to good posture. My study will ask if those children from higher socio-economic status (SES) who either own or have the resources with which to obtain more electronic devices will have more cultural postural capital than those from lower SES groups.

Bourdieu's work on body postures and culture, or, more precisely, the juxtaposition between bodily performance and cultural habitus, underscores class differences as indication for cultural habits. As Childress discussed Bourdieu, "the intersection of cultural taste and social economic status is well documented. There is a general agreement that social status affects cultural taste and that cultural taste affects social statuses" (Childress 2012).

III. Methodology

This research was approved by the Ethics Committee as well as the Ministry of Education. The purpose of my research is to examine the lifestyle practices of working class and middle-upper class Jewish Israeli children in the classroom and at home and to see if a relationship with posture exists. My study also aims to answer the question of whether children from lower SES groups have less exposure to electronic devices than children from higher SES groups, and consequently spend their time outside of school being more physically active, and exhibit better posture as a result. Furthermore, would using electronic devices less frequently also mean that there was less of a likelihood to develop poor posture such as that indicated by iPosture?

In this study posture is explained through certain cultural habitus exhibited by lifestyle practices such as diet, exercise levels and technology usage among middle-upper class and working class Jewish children in Israel. I examined various sociocultural components such as class and status to see if they impacted lifestyle practices and could therefore also be attributed to varying postures. Most notably, the prevalence of sedentary behaviors and the subsequent rounding of the back--such as indicated by iPosture--that are impelled by electronic devices in Western culture, were the driving force of the research. This study aims to illustrate how deeply embedded lifestyle behaviors are cross-cultural and how their continued habitual practice can explain the different postures that are evident among Jewish Israeli youth.

This chapter will discuss the qualitative and quantitative elements of the study and why it was necessary to use both for the working class and middle-upper class Jewish Israeli school children. I will also explain the research design, data collection methods, data analysis, their significance and

limitations. Finally, I will explain the course and process of conducting this type of research as well as the ethical considerations and approval needed to use school children as subjects in an empirical study.

Triangulation

The concept of triangulation suggests that a more thorough depiction of a study can be obtained through the use of both the qualitative and quantitative approaches. "Triangulation involves using multiple data sources in an investigation to produce understanding (Cohen 2006)". Since my research lends itself to both the qualitative and quantitative approaches for collecting data, I will rely on Denzin (1978) and Patton's (1999) application of triangulation to explain why both are necessary for my study. For example, in reference to data triangulation, my study used the traditional anthropological methods of participant observation and interviews (qualitative) while also utilizing the empirical methods of postural assessment, photographs, and quantifying questionnaires (quantitative). Both approaches were essential to examining consistency of the findings generated by different data collection methods, or methods triangulation. Furthermore, the triangulation of sources, such as using the public and private spaces of schooling, allowed me to further examine the consistencies of different data sources from within the same method.

Participants

The participants for observation were comprised of an aggregate of two groups of children that were between the ages of 10-11.5 (5th-6th grade). The first group consisted of students from a classroom of 25 pupils in one public school. The school was visibly run-down and in a low income area in a city located in the center of Israel. The predominant ethnicities of the students in the class

were Ethiopian and Russian descent. The students were asked to participate in interviews, postural exercises which were photographed, and to bring parental consent forms to participate in the study.

Out of the 25 students in the class, 15 completed the questionnaires either in the classroom or at their home. Of those 15 students, 9 submitted their parental consent forms along with the questionnaires and will henceforth be referred to as 'full participants.' The ethnicity of the 9 full participants consisted of 5 Ethiopian, 1 Russian, 1 Georgian, 1 Uzbekistan and 1 Libyan. The full participants were comprised of 6 females and 3 males (see Appendix Table 1). The observations were conducted in places throughout the school such as the classroom, hallway, playground, office and gymnasium. The questionnaires were given in the classroom and the interviews, postural exercises, and photography were conducted either in the hallway, or in a nearby classroom.

The second group of children consisted of 7 students that were former private students of mine to whom I taught English lessons in the past. They all lived within 5 kilometers of each other in an affluent neighborhood in a city located in the center of Israel. Six of the 7 participants were of full Ashkenazi descent: four were of only Polish descent, and two were Polish/Hungarian/German and Polish/Russian/Ukrainian, respectively. One participant was of mixed ethnicity, namely of Iraqi/Czech descent. This group was comprised of 3 females and 4 males (see Appendix Table 2). The observations, questionnaires, interviews, postural exercises and photography for the middle-upper class participants were conducted at their homes.

I was given parental consent to observe, give questionnaires and interview all of the participants in the middle-upper class group and all of them completed the questionnaires and interviews. Additional parental consent was given for the five participants who agreed to be photographed and participate in the postural exercises. They will henceforth be called 'full participants' as they participated in the

study in its entirety. The remaining two did not want to be photographed and only one of those two completed the postural exercises.

Privacy

In addition to the anonymity of all of the student participants in the study that was clearly outlined in the parental consent forms, the names of the school, teachers, administrators, neighborhoods and cities will also not be used.

Research Planning

Obtaining a school site for observation was not an easy undertaking. This particular school was selected for the study because I had a contact there. However, despite my contact at the school, it still took me several months until I was able to persuade the principal to allow me to conduct my research at her school.

Obtaining participants from the private sector, namely former private students, was a much easier task. I contacted several parents of my former private students (to whom I taught English) to see if they would agree to let their children participate in my study. Both the students and their parents were curious and enthusiastic about the study. I then coordinated a time to go to their homes to conduct my research.

Interestingly, since many of my former private students knew each other, word spread about my study and some parents actually asked to participate. It is important to note that I had initially hoped to conduct a similar study at a public school in an affluent area to compare between different classes of

students (low income/high income areas) regarding their lifestyle practices and posture. However, I could not get the cooperation of the principals in high income neighborhoods. Therefore, using former private students as a group for study turned out to be a fruitful alternative and provided a myriad of information that could not be obtained otherwise.

Research Design

Parental consent forms permitting participation were required of all the students prior to participating in the study. The parental consent forms illustrated a picture of a female sitting in three different types of posture on a chair: hunched over, arching backwards, and sitting upright. The consent form introduced me, my study and the importance of posture. It explained that children with the signed consent form would be taken out of the classroom one time for the duration of 15 minutes for a conversation relating to their activity levels and lifestyle practices. The children with a signed form would also be asked to sit, stand and perform a squatting exercise and have their photograph taken during these activities. Anonymity of the children would be kept and their faces would be erased or completely darkened in the photographs and would only be used for research purposes. The study would also provide information about their children's posture.

My observations at the school took place over the duration of two months at various areas of the school. They included 12 visits that lasted approximately 2 hours per week. Some of the observations were held in the students' classroom during math, reading, free time, computers or Bible lessons. Other observations were done during their physical education lessons at the gymnasium. I also observed the children at different activities on campus, such as during recess, in the office, in the hallway, or while a performance was being held in the gymnasium. One observation was conducted

during school dismissal, just outside of the school property as children were interacting with each other and their parents before going home.

I observed the children in the classroom 4 times before I handed out the questionnaires and parental consent forms. This was done so that my presence in the classroom would become known and some trust would be gained in order for the children to agree to fill out the questionnaires (although the Ministry of Education granted me permission to hand out the questionnaires without parental consent, the completion of the questionnaires was optional). The mystery behind my presence in the classroom helped generate a lot of curiosity as to who I was and this worked favorably in gaining full participants, however there were other aspects of my presence that led to some misinformation about the study. I will elaborate more on this issue later.

On the 5th visit I handed out the questionnaires and the parental consent forms. The questionnaires were filled out during class time, and classroom teacher only permitted 30 minutes to complete the questionnaires. I collected the completed questionnaires and a few of the ones that weren't completed were taken home with the students and given to me at a later date upon their completion.

I received some of the parental consent forms on the 7th visit and began taking those full participants out of the classroom for further assessment. Each student was taken out of the classroom one at a time for approximately 15 minutes. During this time, I conducted the interview and discussed their activity levels based on their questionnaires and various lifestyle practices, including the kind of foods they ate. The students were also asked to sit in a chair, stand, and perform a squatting exercise which were photographed. I was usually able to take 1-2 full participants out of the classroom per visit to the school.

The remaining 4 visits at the school were conducted in the same fashion. Upon completion of the study, I thanked all of the participants, the class teacher and the administration, and sent them all

boxes of pizza. The teacher told me that the pizza party was a great source of pride for the students and together with the study, it made them feel special.

Observations in the Middle-Upper Class Participants

I visited each student one time at their home and the duration of the visit varied from student to student. Some visits lasted for 30 minutes while others lasted two hours. The three female participants were close friends and wanted to be researched together. This provided a spectrum of data for the study, as I was able to observe them interact as they ate together, socialized, played with electronic devices and sat on chairs, couches, and the floor -- in addition to the other components of the study. Additionally, I observed them while they were filling out their questionnaires, during the interview and discussions, and as they were doing postural exercises. I was able to go over the questionnaire and discuss their lifestyle practices with them at length.

The visits for the remaining participants were conducted in the same way. I observed the students as they filled out the questionnaire and discussed any questions that they had as well as their answers. As previously mentioned, of the four male students, only two agreed to do both the postural exercises and be photographed. Of the two that declined, one agreed to do the postural exercises but did not want to be photographed. It should be noted that the male student who didn't want to do either was overweight and expressed his insecurity about participating in any exercises. These factors contributed to his not wanting to be photographed.

Prior to my visit, the middle-upper class participants were only told that the study had to do with posture and that they would be filling out a questionnaire, discussing it, doing some exercises and be photographed. After the study was completed, I discussed the children's postures with their parents, per request. I explained that I was looking at lifestyle practices and their relationship with posture. All of the parents were concerned about the lifestyle practices that could be detrimental to their children's

posture. They were extremely appreciative and hoped that this research would garner attention for poor posture among children.

Data Collection Methods

Participant Observation

During each of my visits to the school and the students' homes, I wrote down everything that I observed that pertained to my study. Everything from the design of the furniture to the design of the children's postures was of relevance. Notes about the neighborhoods, school, homes, principal, teachers, school students, private students and their families were included and analyzed with the other data.

Questionnaire

The questionnaire consisted of 12 questions that pertained to the children's activity levels at home as well as how they got to school (see Appendix Table 3). The answers were fill-in-the-blank. The questions were designed for the communities being studied and were the same for both groups. For example, 'riding the bus' was not given as an option on the questionnaire as a means to get to school because schools in Israel usually reside within walking distance from the children's homes. Therefore, most children either walk or ride their bikes to school and in rare cases are driven by their parents. Moreover, because I was informed about the school children's schedules, and was told how many times a week they had sports and how many times each day they had recess, I did not find it necessary to ask those questions again in the questionnaire. The same applied to the middle-upper class participants who also provided me with information regarding their school schedules. Some sample questions from the questionnaire were:

Do you do any type/s of physical activity or exercise (such as walking, running, swimming, playing sports, karate, going to the gym, riding a bicycle, dancing, or other)?

Do you walk for 30 minutes or more a day (this does not include any physical activity mentioned previously)? If so, please describe.

Do you sit for an extended period of time on a chair at home? On the bed? On the couch? On the floor? If there are other places that you sit for an extended period of time at home, please indicate.

Interviews

The interviews were conducted in order to discuss the questionnaires and lifestyle practices with the participants more thoroughly. Many of the participants were curious about the study and the interview presented an opportunity for them to also ask questions. Furthermore, discussing the questionnaire allowed me to address any of the questions that were not answered fully and to also obtain other types of data for analysis from the children. For instance, I learned that one child spent 5 hours on the WhatsApp chatting application every day. She did not provide this information on the questionnaire and had I not inquired further about her answers I would not have been privy to this information. The interviews also enabled me to learn about other lifestyle practices such as the children's eating habits. For example, I asked the participants about the foods that they ate at home and whether they ate mostly at home or at restaurants. I learned about which children predominantly ate nutritious meals, which children ate fast food and which children had both. The interview questions supplied me with a full scope of the lifestyle practices of the participants and therefore were an essential part of the study.

Postural Exercises and Photographs

The postural exercises in the study were based on those used by the Alexander Technique, an educational and postural improvement method. For instance, the 'squatting exercise' required the participants to go from a standing position to a full squat on the floor. While observing the participants' postures during the study, I used the guidelines that I studied while training to be an

Alexander Technique teacher and used them to determine the range of the participants' postures. It was very clear to me which participants exhibited good use and which illustrated misuse from my years of training and teaching of the Alexander Technique. Postural assessments were made based on the principles of the Alexander Technique.

The photographs were wonderful tools of measurement as they provided the most transparent and concise means for analysis. Moreover, the photographs of the children that were taken during the postural exercises corroborated my notes from the field and were also compared with models of good posture from the Alexander Technique. A more detailed account of what constitutes good use and poor use will be provided in this next section. Additionally, some examples of desired and undesired posture will be provided through photographs for further clarification.

Data Analysis

Examining Posture

Posture has a direct impact on health and well-being (Little et al., 2008). The presence of poor posture can result in problems with concentration, coordination and other components of imbalance in the musculoskeletal system. The plethora of information that is bombarding Western lifestyles can often lead to sensory overload because so much information serves as constant stimuli triggering continual reactions from the body. Each thought derives a reaction from the musculoskeletal system. For example, there are many thoughts going through one's head as they sit at a computer and write an email. However, most people don't do just that. They could also be listening to music while simultaneously glancing at their phone and drinking a cup of coffee. All of these activities require thinking to carry them out--action and reaction. Engaging in all five activities at the same time, and

acting them out, puts excess stress on the sensory system which results in undue tension that inadvertently affects posture. As the founder of the Alexander Technique, FM Alexander, explained it, "You translate everything, whether physical, mental or spiritual, into muscular tension (Alexander 1995)." As most of us carry out our daily activities, we do so often unaware that our constant reactions to the overabundance of stimuli all around us perpetuate our habits and misuse of our bodies.

The Alexander Technique views undesired posture as that which exhibits misuse, or poor use, of the body. Namely, arching or hunching over the back (also known as rounding the back), holding the body with excessive tension-- would all constitute misuse of the body. Desired posture exhibits good use of the body. The Alexander Technique explains this principle through exhibiting a free neck (one that is not constrained or 'stiff'), a head that moves forward and up (as opposed to falling back and down, thus shrinking the spine) and having a lengthened and widened back (as opposed to one that is arched or rounded). A visual way to begin to understand desired posture is by imagining the head sitting on top of the body like a hot air balloon, pulling the spine up as it would the string.

Criteria for Assessing Posture

Overall postural assessment was comprised of the analysis made during the observations of the participants, the postural exercises they performed, photographs taken of them during those exercises, and additional information gathered from the questionnaires, interviews and discussions. The assessment of their postures during the exercises and subsequent photographs were made based on the principals of the Alexander Technique. 'Good posture' was illustrated by those participants who were able to carry out the postural exercise by exhibiting a free neck (one that is not constrained or 'stiff' with tension), a head that moves forward and up even as they began squatting (as opposed to falling back and down, thus shrinking the spine), and lengthening and widening their backs as they moved downward (as opposed to one that arches or is rounded), having their knees move

forward and outward as they approached the floor (as opposed to inward or pressed together), all while maintaining balance and the support of their feet. This was not an easy exercise and required a great deal of coordination, body intelligence and body work that was previously discussed with regards to Bourdieu (1988).

Other markers for good or desired posture--or illustrating low cultural postural capital-- while performing the postural exercises were being able to do the "full squat" exercise without leaning on the body (i.e. resting elbows or hands on legs or knees) or tilting the head back and down. Maintaining balance and coordination while exhibiting little to no tension were also indicative of performing the postural exercises well and having low cultural postural capital. Markers for undesired posture--and illustrating high cultural postural capital--while performing the postural exercises were not being able to perform the full squat as described above, and consequently exhibiting excessive tension, discoordination and lack of fluidity. More specifically, tightening the neck, pulling the head back and down, arching the back or rounding the back to where it appears to be slouching over or even like a hump, leaning too far forward or backwards or using the heels of the feet or arms for support while holding excessive tension in other parts of the body, pulling the shoulders or arms down, and turning the feet inward or upward while trying to balance, were markers of increased to high cultural postural capital. The photographs of the participants (see in the Results section p.58-96) were compared with other models illustrating good or desired use such as those of toddlers (see Figures 6-7 below) --who are most notably exemplary of excellent posture and low cultural postural capital-- as well as an older individual (see Appendix Figure 35) whose posture also exhibits low cultural postural capital.

Here are some images that help delineate some markers for desired and undesired posture:

Examples of Undesired and Desired Use of the Body

Figure 1: Model of Undesired Use of the Body (left) and Desired Use (right) While Sitting in Front of a Screen. Special Thanks to Adrian Farrell for the Use of this Image.

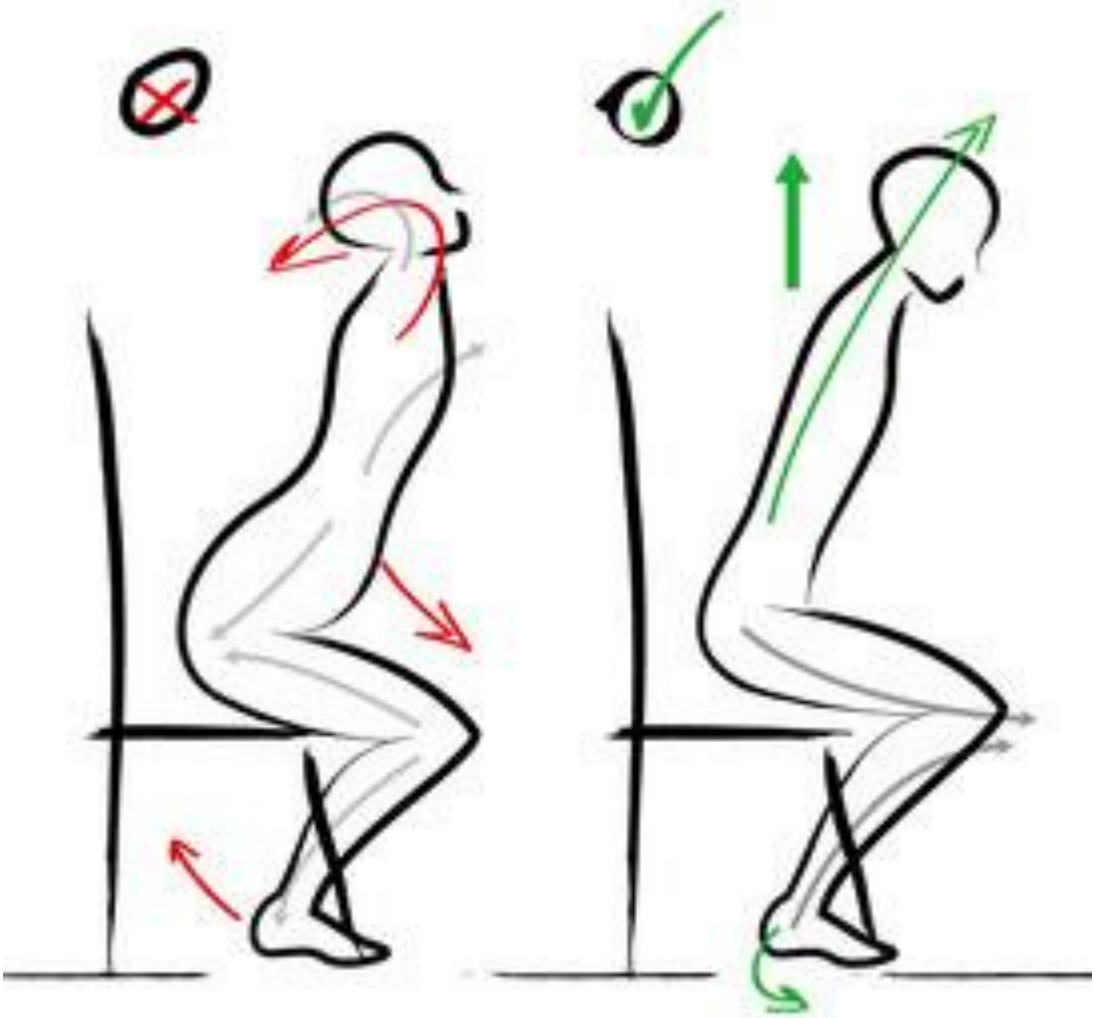

Figure 2: Images of Undesired Use of the Body (left) and Desired Use of the Body (right) While Attempting to Get Out of a Chair. Special Thanks to Adrian Farrell for the Use of this Image.

It is important to emphasize that assessing posture is not something that can be done with merely an image or photograph. There were several components to assessing posture that utilized all of the resources from the study. Furthermore, the images and photographs were able to capture markers for desired posture and undesired posture but they are not definitive on their own. Also it is important to note that participants who exemplified desired posture could more easily be susceptible to misusing their bodies than the inverse. Namely a person with desired posture and low to moderate cultural postural capital could instantly, easily and unintentionally exhibit poor use while engaging in an activity such as looking down at a mobile phone or tablet. However, a person with undesired posture and high cultural postural capital could not easily or even remotely be capable of instantaneously reverting to the state of desired posture (based on the principles of the Alexander Technique—neck free of tension, head moving forward and up, lengthened and widened back). A good analogy to help understand this concept is to think of a thin, metal needle. In its natural state, the needle is upright. Once you bend it, that becomes its new state and even if you try to bend it back, it will never be as upright as it was originally. That is similar to how cultural postural capital works. Once the natural state has been disrupted, it cannot revert back to its original state without first, re-educating one's use of the body. Before the re-education can occur, further deterioration must be prevented and one should abstain from more undesired habits that lead to increased cultural postural capital. Characterizing "use" in terms like "good" (desired) and "poor" (undesired) helps delineate usage as habits that accumulate over time and form the more fixed state of posture.

For example, in Figure 3 below, the three female participants from the middle-upper class group were sitting around a dining room table eating. They were all exhibiting poor use--with rounded backs--and were pulling their heads towards the food, rather than bringing the food up to them.

Figure 3: P11, P12, and P10 from the Middle-Upper Class Group Illustrating Several Markers for Undesired Posture While Eating

However, prior to when this group photo was taken, P11, from the middle-upper class group exhibited good use in her squat exercise (see Figure 4 below).

Figure 4: P11 from the Middle-Upper Class Group Illustrating Good Markers for Desired Posture and Moderate Cultural Postural Capital Leading to Squat Position

How could this be? How could she vary from exhibiting poor use in Figure 3 to exhibiting good use in Figure 4? In order to answer that question, we have to look at her postural state which was determined through careful analysis. P11 was found to have overall good markers for desired posture and moderate cultural postural capital. However, in Figure 3 she fell more easily into engaging in poor habits such as the influence of sitting next to others with rounded backs and bringing their heads to the food as opposed to the other way around. Certain undesired habits disrupt the natural upright postural state that is desired while eating. Additionally, in Figure 5 below, P11 can be seen again engaging in lifestyle practices that have detrimental effects on posture such as how she is sitting while using her phone.

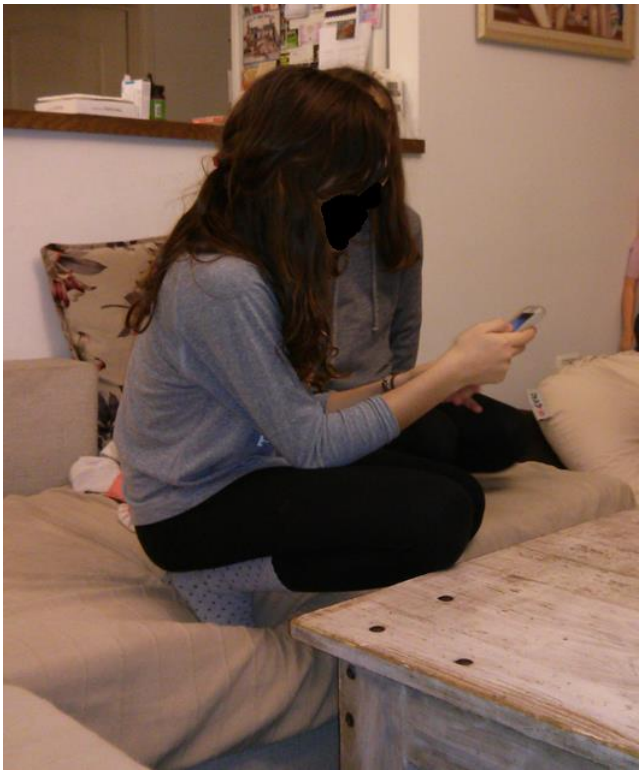

Figure 5: P11 from the Middle-Upper Class Group Illustrating Undesired Use while Using a Phone.

All of the good markers for desired posture for P11 in Figure 4 have gone out the window and have been replaced with poor markers leading to undesired posture in Figure 5. Therefore, this study closely examined various criteria to determine overall postural assessment.

When looking for models of excellent posture, we turn to toddlers who have little to no cultural capital, as they haven't yet been substantially exposed to the plethora of stimuli that is rampant in the lifestyle practices of Western culture. However, it is important to note that toddlers of today are exposed to much more stimuli than toddlers of 20 years ago. This is the result of the prevalence of technology as well as devices that are easily accessible to toddlers—such as smartphones. Nonetheless here are some examples of toddlers illustrating excellent markers for posture.

Figure 6: Toddler Illustrating Excellent Markers for Desired Posture in Full Squat (Picture Taken from Public Domain).

Figure 7: Toddler Illustrating Excellent Markers for Desired Posture in Full Squat (Picture Taken from Public Domain).

In both of these figures it is clear that the toddlers are exhibiting markers for excellent posture. They are both illustrating a free neck, a head that moves forward and up, and have a lengthened and widened back. The "full squat" exercise is performed with ease, without leaning on the body for support or tilting the head back and down. Their knees are spread apart and pointing outward with their feet supporting them on the floor. They are both maintaining balance and coordination while exhibiting little to no tension, and do so naturally and effortlessly.

An image of desired and undesired use of the body in a full squat will help further clarify the difference between what is considered to be desired posture in the full squat and the type of undesired posture that is prevalent in the Western squat.

Images of Desired and Undesired Use of the Body as Seen in the Squat

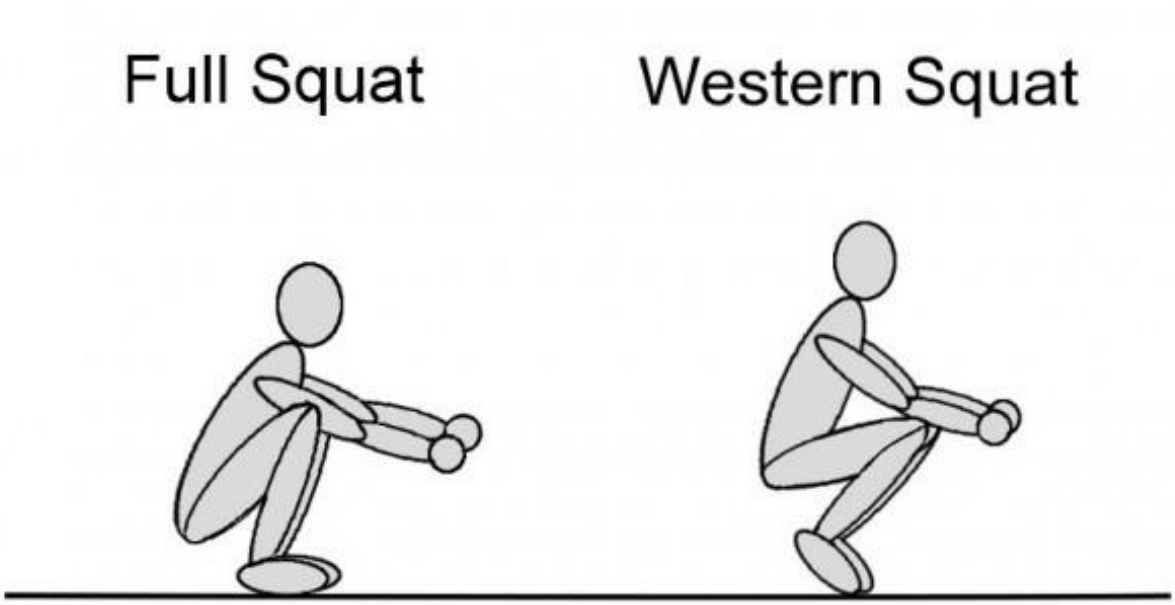

Figure 8: Image of Full Squat (Desired Use of Body) and Western Squat (Undesired Use of Body). Special Thanks to James Speck of Somastruct for the Use of this Image.

Data Pertaining to Physical and Sedentary Activities

The quantitative data was gathered from the quantifying questionnaire questions that the children filled in (see Appendix Table 3). Questions that asked for specific length of time for any type of regular extracurricular activity (physical activity that was done on a regular basis outside of school) was included in analysis. Additional exercise, such as the amount of time it took students to walk to school, was also included in the total amount of home physical activity, namely activity done outside of school (see Appendix Figure 23). Home physical activity time was analyzed along with the supplemental data provided from the interviews and discussions, school (gym class, recess) and

home observations, the postural exercises and photographs. The total home physical activity time was compared with the total school physical activity time (see Appendix Figures 23 and 27).

The types of extracurricular physical activities from both groups were also provided (see Appendix Figure 28). The 9 participants in the working class group engaged in a variety of 7 different types of activities. They included: walking, basketball, dance, swimming, soccer, running and bike riding. The 7 participants in the middle-upper class group engaged in a variety of 11 different types of activities. They included: walking, sport games, dance, swimming, bike riding, gymnastics, basketball, karate, tennis, gym, and acrobatics.

Some of the more general questions, such as those that asked whether or not the students walked for 30 minutes or more a day (see Appendix Figures 29 & 32) or whether or not the participants played outside with their friends or family (see Appendix Figures 30 & 33) were not included in the total amount of home physical activity time but were presented as supplemental data.

Additional information regarding the kinds of food that the participants ate at home or how active their family was, were also provided and will be detailed in the following chapter. Any supplemental information that was provided from the interview and discussion was also added, if relevant (i.e. if a question was previously incomplete).

The data for sedentary behavior and total physical activity at school was gathered from the classroom teacher of the working class group and was confirmed by the students' daily schedule listed on the school website. The hours spent in sedentary behaviors at the public school per week were also consistent with those of the middle-upper class group at their schools. Sedentary behaviors at home were assessed based on the quantifying questionnaire questions that the children filled in regarding home sitting activities (see Appendix Table 3 and Figure 24). Questions that asked for specific length of time for any type of sedentary activity that was done on a regular basis

outside of school was included in the analysis. The analysis of sedentary behaviors was amalgamated with the supplemental data provided from the interviews and discussions, classroom and home observations, the postural exercises and photographs. Furthermore, total home sitting time was compared with total home physical activity time (see Appendix Figure 25) as well as total school sitting time (see Appendix Figure 27). The total home sitting time was comprised of technology related sitting time, namely usage of technology devices such as computer, TV, phone and tablets. Phone usage included talking on the phone, using the "chat" applications and playing games. Non-technology related sitting time at home included eating meals and sitting at a desk (without a computer) to do homework. The different types of technology devices and their usage were also analyzed separately (see Appendix Figure 26).

Limitations

I could never have anticipated that dealing with the public school system would be as tedious and time consuming as it was. Having said that, the research at the public school was invaluable. Nonetheless, there were several limitations to this study.

Firstly, the school principal withheld all contact information of the classroom parents. Namely, I could not reach any of them by phone or at their homes for questions pertaining to lifestyle practices. The principal told me not to expect anyone to fill out the parental consent forms—that the parents "won't sign anything, some of them can't even read in Hebrew" and that they didn't want to be involved. While the principal's experience with the parents-- and students-- was a huge contrast from the classroom teacher's experience with them, she was the one with the authority to disclose the information. I did take heed of her words regarding the students' parents, namely those who may not

be able to read or speak in Hebrew and consequently I modified the parental consent forms a few times, eventually settling on a consent form illustrating pictures of different postures on the page for further clarification.

Another problem I faced at the school had to do with the classroom teacher's misinterpretation and misrepresentation of my study. Despite my briefing and explanation of the study the classroom teacher misinformed the students and told them that I was there to observe them so that they could all get new chairs (the teacher mentioned to me several times that she wanted new chairs for the classroom). As a result, many of the children made comments to me about the chairs and how they hurt their backs. While it didn't affect the outcome of my study, it did affect the response to Question #6 (see Appendix Table 3) from the questionnaire, "Does sitting in a chair cause you to feel uncomfortable or cause back pain?" For these reasons, I decided to omit Question #6 from the final analysis. It is also worth noting that all of the middle-upper class participants answered "no" to Question #6.

Regarding discrepancies with answers to the questionnaire, some students' may have been confused with a question and answered incorrectly as a result. For example, Question #7 asked, "How many minutes or hours do you sit in a car every day?" The working class group's classroom teacher let me know that only one student's family in the class had a car and that student was not a participant in my study. It is possible that some of the students answered this question based on the amount of time they rode on a bus but the second part of the question asked about time spent sitting on a bus. One participant from the working class group answered Question #7 by saying that she spent 3 hours in the car and 10 minutes on the bus daily. This question also generated a lot of inconsistencies and confusion in both participant groups and therefore I decided to omit Question #7 from the analysis

altogether. Furthermore, both groups did not ride in a car for extended periods of time daily and therefore the data was not essential to the study.

I did, however, include answers to the questions that pertained to back pain. In the working class group C3 said that he "maybe" experienced back pain during sedentary activities at home (Question # 11). C4 and C7 both said that they experienced back pain during sedentary activities at home and also while sitting in certain vehicles (Questions #11 and # 8 respectively). C9 said that she experienced back pain during sedentary activities at home (Question #11). All the other working class group participants said that they did not experience back pain in a vehicle or during sedentary activities at home. In the middle-upper class group only P15 said that he experienced back pain while sitting in a computer chair or on the floor (Question #11). All of the other participants from the middle-upper class group answered "no" to experiencing back pain in a chair, vehicle or during sedentary activities at home (Questions #6, #8 and #11 respectively).

Repeated absences in the classroom also became problematic during the study. While there were 25 students in the classroom, I never met all of them nor saw all of them in the class at one time. Many of the students needed additional tutoring and were taken out of the class at various times throughout the day. Additionally, due to excessive absences, not all of the students knew about the study. Even though I came to the classroom at different times and on different days, I was still unable to observe all of the children in the class. For that reason, obtaining 9 full participants was a huge triumph for my study. Furthermore, because I never saw all of the students in the class, I could only describe the ethnicity of the children I had questionnaires for or interviewed and observed. Although the classroom teacher did specify that 58% of the class was of Ethiopian descent, she did not provide the ethnicities of the other children. Due to confidentiality reasons I could not obtain any additional information about the children who did not provide consent forms.

Of the 9 full participants from the working class group, there was one participant whose interview was incomplete, and another whose questionnaire was incomplete. C8 was taken out of the classroom repeatedly for tutoring and it was very difficult to find a 15-minute window to conduct the postural exercises and interview with her. Therefore, I chose to conduct the full postural exercises and photographs instead of the full length interview, given our very short time frame. This resulted in not having enough time to acquire information about her diet in the interview. Furthermore, time was always an issue with the participants' classroom teacher. Consequently, my time with C5 was also cut short and I didn't have enough time to go over and complete her questionnaire with her, in which she left the sedentary behaviors section blank. The root of these issues will be further addressed below.

The way the questionnaires were distributed and regarded by the teacher was a point of contention in my study. I was never told that there was a limit to how much time the children could spend on the questionnaires and explained to the teacher that they were paramount to my study. Furthermore, as per the instruction of the Ministry of Education, I was not allowed to discuss the questionnaires with the children, only the teacher could do so. The teacher's brevity with the whole process greatly influenced the number of students who completed their questionnaires. Some of the children needed more time as well as help with understanding the questionnaires. I was not permitted to talk to the students who did not sign parental consent forms and therefore it was up to the teacher to explain the questionnaires to them. Instead she just urged them to hurry up. Thirty minutes was not enough time for some of the children to complete the questionnaires and they were not given any additional time in the classroom. While she did allow the students to take the questionnaires home for completion, once they were out of the classroom, many were lost or misplaced and the ones that were recovered were often incomplete. However, I was able to go over the incomplete questionnaires of some of the full participants during our interview and fill in any gaps. It is important to note that despite revising and

shortening the questionnaire several times to make it more accommodating to children who may have had difficulty reading, some still struggled with the questions nonetheless.

Furthermore, because the interviews were so informative, they highlighted the disparity between the data gathered from the 9 full participants from the working class group and the 6 students that only filled out the questionnaires at the public school. Of the 6 public school students who only filled out the questionnaires, most were incomplete. For these reasons, those 6 public school students who only filled out questionnaires were not included in the final analysis.

The accuracy of some of the answers from the questionnaires and during the interviews were also questionable. While some female participants from the middle-upper class group (P10, P11 and P12) claimed to have low daily phone usage (4.08 h/w, 1.16 h/w and 2.33 h/w respectively), my observations of them proved otherwise. While I was observing the three of them together I noticed that they had chat groups with the students from their class that they responded to frequently. This was also the case with a male participant from the same group, P16 who also claimed that the students in his class sent hundreds of messages on the WhatsApp chat application daily. Though he stated that he only spent 1 hour on his phone daily, the number could actually have been much higher. This illustrates how some of the participants may not have been aware of how often they used their phones or other electronic devices.

Closing

As the lack of literature shows, answers regarding postural health and lifestyle practices are currently missing in research. Therefore, it is imperative to garner as much information as possible, particularly in this technologically savvy era, and ask the big questions. Do children from lower SES

groups have less exposure to technology and consequently have better posture than children from higher SES groups? And if so, does a relationship exist between certain lifestyle practices--such as excessive technology usage-- and posture? The next chapter will answer these questions based on the findings of my study.

IV. Results

This research aimed to illustrate how certain cultural habitus—such as those reflected in lifestyle practices like diet, exercise levels and technology usage, explained children's postures. Different tools for assessment and measurement were used for this analysis. Data triangulation was used for both the traditional anthropological methods of participant observation and interviews as well as for empirical methods of assessment. The interviews and discussions provided qualitative information regarding the participants' lifestyle practices and demographics. Postural assessments, photographs and the quantifying questions from the questionnaires provided the empirical data for the study. Triangulation was necessary to provide a comprehensive and consistent analysis of lifestyle practices and examine their relationship with posture. Furthermore, using both a working class and middle-upper class group provided additional ethnographic information and will be discussed at greater length in the following chapter.

The first group was comprised of 9 full participants (6 females and 3 males) from a public school in a lower-income area (see Appendix Table 1). The predominant ethnicity of the children in the classroom was Ethiopian descent, all of whom were observant Jews and kept kosher. The second largest ethnicity in the classroom was Russian secular Jews. This information was provided by the classroom teacher and through the interviews and observations. There were a couple of students who appeared to be of mixed ethnicity but I only received specific information about the ethnicities of the children who participated in the study.

The majority of the residents in the neighborhood surrounding the school were of Ethiopian descent. Most of the males—of all ages--wore a skull cap, a symbol of religious observance. The apartments in the area were old, dilapidated and visibly run-down. There was a modest quality to the

neighborhood that was also evident in the dress and quiet atmosphere. The school itself was decrepit, neglected and in dire need of new bathroom facilities for the students.

My observations in the class confirmed what I learned from the students about the classroom chairs during the interviews; namely that they were unbearable. Each classroom contained chairs that were far too small for a 5-year-old to sit in, let alone 10-11.5 year olds and this greatly affected the children's ability to sit still in their chairs.

Other observations at the school exposed me to incidents that were very concerning regarding the welfare of the children. The issue of violence was evident both inside of the school and outside. For instance, almost every visit I had at the school either began with or culminated in a physical fight among the male students.

The second group in the study consisted of 7 participants (3 females and 4 males) who were former private students of mine from a middle-upper class area (see Appendix Table 2). The neighborhoods of the private students were bustling and thriving. The buildings were freshly painted and modern, encircled by landscaped parks and new roads. The majority of the residents that I knew were of Ashkenazi origin, yet I also knew of a fair amount mixed families—namely consisting of both an Ashkenazi and Sephardic parent.

There was an atmosphere of abundance at the homes of the middle-upper class group. Each of my former private students lacked for nothing. There were often multiple screens in a single room. One student had a flat screen TV against his wall and two computer screens on his desk. Some had two phone devices. They often had several private teachers for different subjects like math and English and even a tutor specializing in general homework assistance. They were involved in their community's scout program and had guitar lessons, acrobatics, gymnastics, dance, karate lessons, gym memberships, country club memberships and an array of other activities.

The hours spent in sedentary behaviors for the working class group at the public school per week were consistent with those of the middle-upper class group at their schools. The participants spent at least 26.5 h/w sitting during school hours. The total physical activity time given by the public school was 4.75 h/w (see Appendix Figure 27). This included 2 recess breaks a day during the first 5 days of the school week-- one for 20 minutes and another for 15 minutes. On Fridays school finished earlier and therefore only the 20-minute break was given. The total physical activity time at school also included two physical education classes per week. Some of the middle-upper class group participants said that they had an additional third physical education class each week, but the model used in the study was based on the schedule provided by the public school. The ratio of hours of sitting time to activity time at school per week was 5.57:1 respectively.

Findings for the Working Class Group

The findings for the working class group indicated that the average amount of home physical activity time (physical activity done outside of school) for the participants was 8.87 hours per week. Of those hours, 1.62 hours were spent walking to and from school per week. In addition to the home physical activity time, 5 of the 9 participants walked an additional 30 minutes or more each day. Also 7 of the 9 participants played outside with their friends or family, while one only did so sometimes and one did not. Seven out of the 9 participants stated that at least one family member was engaged in regular physical activities.

Furthermore, the working class group had a low fast food intake with 5 out of the 8 participants stating that they never ate fast food, two stating that they ate fast food once a month or less, and only one stating that they ate fast food more than once a week (one of the 9 participants did not provide

dietary information, see limitations section). All of the participants described eating home cooked meals that consisted of meat, chicken, salad, rice, pasta, couscous, potatoes, soup, eggs and white cheese.

Not all of the participants from this group had access to electronic devices at home. Three participants specified that they did not have access to a tablet, two did not have access to a TV and one did not have access to a computer. However, all 8 of the participants who filled out this question from the questionnaire had access to a phone (one participant did not provide any information regarding sedentary behaviors, see limitations section).

This group spent on average 38.93 hours in sedentary activities at home per week. Of those hours, 26.33 hours were spent using electronic devices. The participants from this group spent the most amount of time watching TV, with an average of 10.5 h/w. The device with the second highest amount of usage was the phone with an average of 9.25 h/w. The device with the third highest usage came from the computer with an average of 4.55 h/w. This group used the tablet for an average of 2.04 h/w.

Participant Postural Assessment

Excellent Use of the Body and Low Cultural Postural Capital (Excellent Posture)

There were 3 participants, C6 (see Figure 9, p.63), C4 (Figure 10, p.64) and C2 (see Figure 11, p.65), all from the working class group that exemplified excellent use of the body with extremely low cultural postural capital while performing the postural exercise. Moreover, they were the only participants who did the exercises precisely as asked while maintaining the Alexander Technique principles that were described. Namely they were able to carry out the exercise while maintaining balance, keeping their head forward and up, their neck free and their back lengthened and widened

while remaining as one unit (namely not arched, bent or rounded), all while keeping their knees spread apart and pointing outward with their feet supporting them on the floor. Their photographs illustrate how all of these markers for low cultural postural capital were met (see Figures 9-11 below) and balance and coordination were maintained. There was another criterion that was not part of this study that exemplifies outstanding balance and coordination--such as keeping both feet planted into the ground while performing the postural exercise and maintaining all said criteria. This criterion was beautifully illustrated by C6 but due to its tremendous difficulty to execute, I left it out of the study, but thought it worth noting.

There were similarities in the lifestyle practices of the three individuals who exhibited excellent posture and balance in their postural exercises and photographs. Their home physical activity times were 7 h/w for C2; 25.2 h/w for C4; and 11 h/w for C6. Furthermore, all of them had a relatively low ratio of sitting time (sedentary behavior) to physical activity time. Namely the ratio of hours of sitting time to activity time per week for C2 was: 2.41: 1; for C4 it was 2.04:1 (the lowest out of all the participants); and for C6 it was 5.31:1. They also had some of the lowest amounts of phone usage per week. C2 used the phone .58 h/w, C4 used it 1.75 h/w and C6 used it 2.33 h/w. These participants either never or rarely ate fast food (C2 and C6 said that they never ate fast food, C4 said that he ate fast food maybe once a month).

Participants Illustrating Excellent Use of the Body and Low Cultural Postural Capital

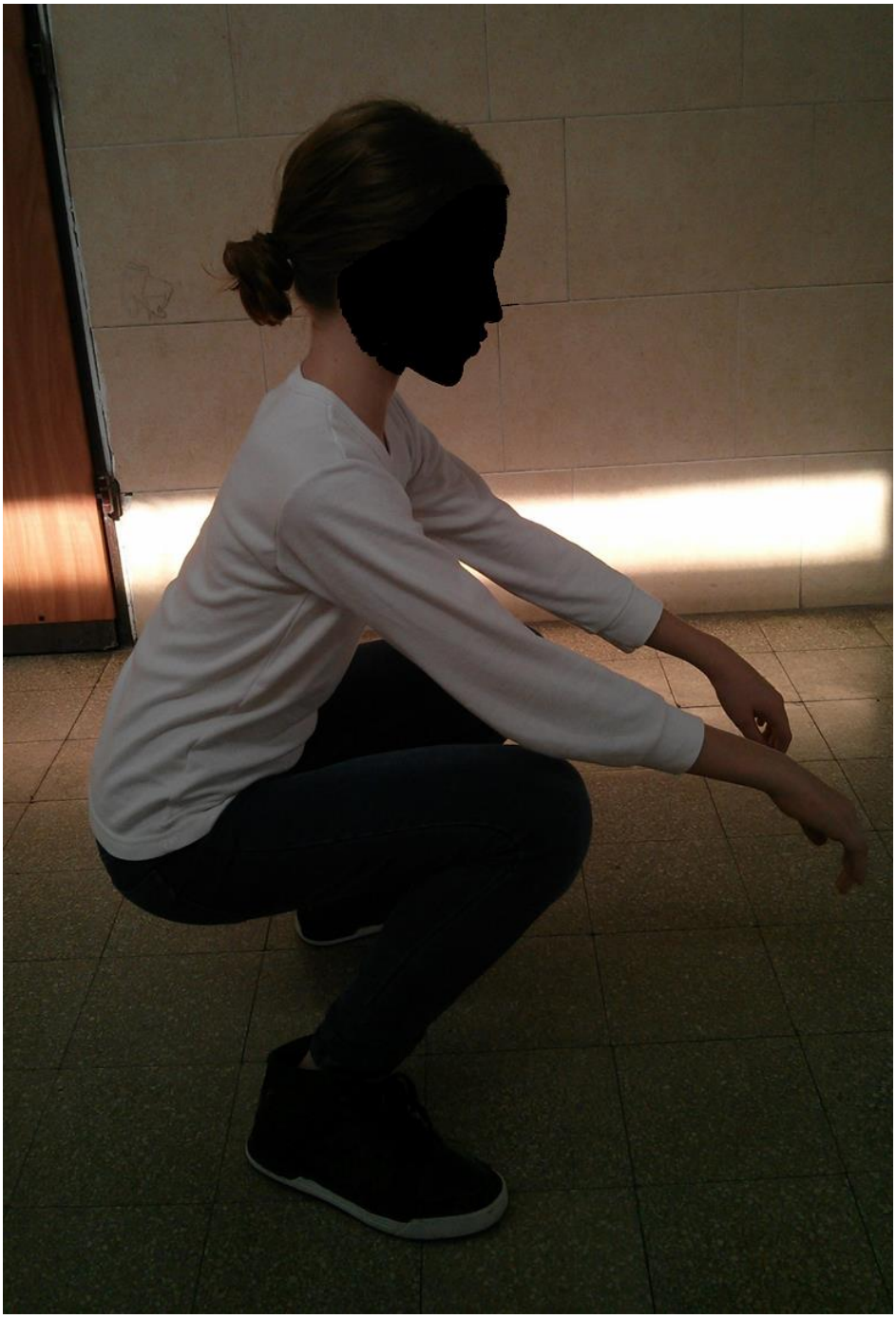

Figure 9: C6—Female from the Working Class Group Illustrating Excellent Markers for Desired Posture and Low Cultural Postural Capital in Full Squat Position during Postural Exercises

Figure 10: C4—Male from the Working Class Group Illustrating Excellent Markers for Desired Posture and Low Cultural Postural Capital Leading to Squat Position during Postural Exercises

Figure 11: C2—Male from the Working Class Group Illustrating Excellent Markers for Desired Posture and Low Cultural Postural Capital leading to Squat Position during Postural Exercises

Good Use of the Body and Moderate Cultural Postural Capital (Moderately Good Posture)

There were two other participants from the working class group who illustrated good posture with moderate cultural postural capital in the photographs but they didn't perform the postural exercises as desired and were also at risk for further postural decline. C5 (see Figure 12, p. 67) and C7 (see Figure 13, p.68) were using parts of their bodies to lean on for support while performing the postural exercises and as a result began tightening other parts of their bodies to compensate for those actions.

C5 was a good example of a participant with good posture, but lacked the fluidity and ease of the previous participants to execute the exercise properly. Although her head remained upright and she maintained a lengthened neck and back, she leaned her backside on the heels of her feet for support and also put her arms in front of her body for added support. This illustrated less coordination to carry out the exercise and also relied on other muscles to help carry out the exercise rather than the ones desired for the full squat, thus leading to the undesired squat position.

Although C7 was able to maintain a lengthened back as she was leading into the squat position, she began to move her head back and down and as a result started tightening her neck which led to the disruption of the fluidity needed to carry out the exercise and consequently started pulling her shoulders down with her arms.

The discoordination of these participants--despite their good use--is indicative of bodies with good use that are being disrupted by lifestyle practices. The time spent doing physical activity outside of school for C5 was 11 h/w and for C7 it was 5 h/w. The ratio of home sitting time to activity time was 7.7:1 for C7, who also had relatively low phone usage per week at 3.5 h/w. C5 did not fill out the questions relating to sedentary behaviors in her questionnaire (see limitations section). Both C5 and C7 stated that they never ate fast food.

Participants Illustrating Good Use of the Body and Moderate Cultural Postural Capital

Figure 12: C5—Female from the Working Class Group Illustrating Good Markers for Desired Posture and Moderate Cultural Postural Capital in Squat Position during Postural Exercises

Figure 13: C7—Female from the Working Class Group Illustrating Good Markers for Desired Posture and Moderate Cultural Postural Capital Leading to Squat Position during Postural Exercises

Some Undesired Use of the Body and Increased Cultural Postural Capital (Average Posture)

There were two participants from this group, C8 (see Figure 14, p.70) and C1 (see Figure 15, p.71) who showed some markers for undesired posture and increased cultural postural capital. C8 was arching her back as she was going into the squat position in the postural exercises. As a result, she was pulling her head back causing excessive strain on the neck. Instead of getting the support that she needed from her feet, her weight was shifted such that she was leaning forward, her shoulders and arms were pulling her down, while her backside was trying to compensate by arching upward.

C1 was leading into the squat position by using her hands on her knees for support. By holding on to her knees so tightly, she was restricting their movement and also straining her neck and lifting her shoulders up. Consequently, her body was stiff and lacked coordination, balance and fluidity.

The home physical activity times were 2.5 h/w for C8 and 8.25 for C1. The ratio of sedentary activities to physical activities for C8 was 5.36:1 and for C1 it was 2.61:1. C8 used the phone 1.16 h/w and C1 used it 5.25 h/w. With regards to fast food intake, C1 said that she never ate fast food. Dietary information was not provided for C8 (see limitations section).

Participants Illustrating Some Undesired Use of the Body and Increased Cultural Postural Capital

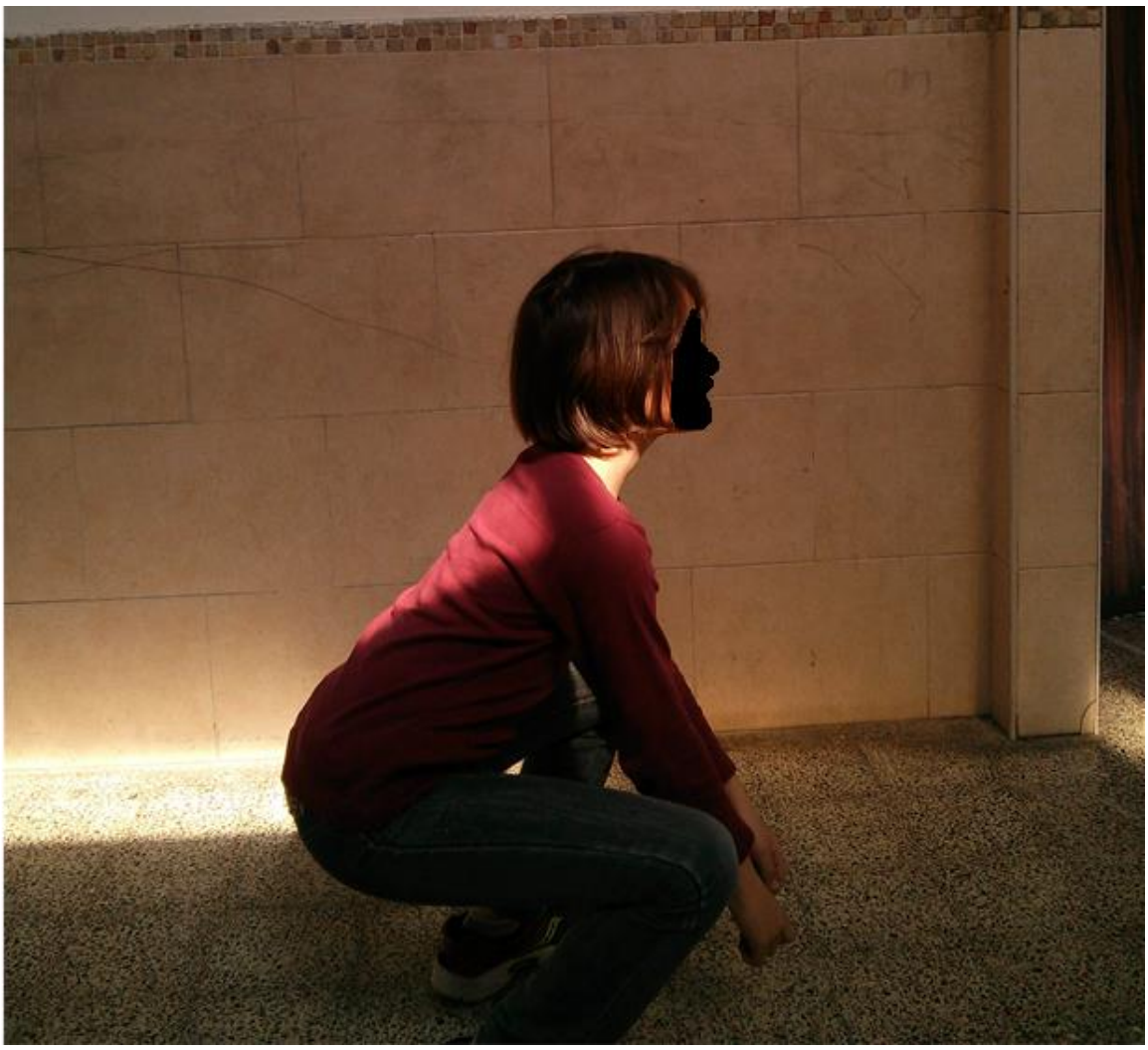

Figure 14: C8--Female from the Working Class Group Illustrating Some Markers for Undesired Posture and Increased Cultural Postural Capital in Squat Position during Postural Exercises

Figure 15: C1--Female from the Working Class Group Illustrating Some Markers for Undesired Posture and Increased Cultural Postural Capital in Squat Position during Postural Exercises

Undesired Use of the Body and High Cultural Postural Capital (Poor Posture)

There was one participant from this group, C9 (see Figure 16, p. 73), who exhibited exceedingly undesired use with high cultural postural capital. C9 rounded her back as she went into the squat position and tightened her neck and pulled her head back and down. Furthermore, she dropped her chest and consequently pulled her shoulders and arms down with the rest of her body, thus causing imbalance and discoordination throughout her body. Her home physical activity time was 6.5 h/w and the ratio of sedentary activities to physical activities was 10.58:1. Her phone usage was the highest in the study with 35 h/w. C9 said that she ate fast food once a month or less.

Participant Illustrating Undesired Use of the Body and High Cultural Postural Capital

Figure 16: C9--Female from the Working Class Group Illustrating Markers for Undesired Posture and High Cultural Postural Capital Leading to Squat Position during Postural Exercises

Markedly Undesired Use of the Body and High Cultural Postural (Very Poor Posture)

The most notable depiction of exceedingly undesired use with extremely high cultural postural capital was exhibited by C3 (see Figure 17, p. 75). He is visibly obese, which has a direct impact on posture by restricting movement (Gilleard and Smith 2006) and is responsible for significant disability and impaired quality of life (Anandacoomarasamy 2007). His neck was tightened and he was facing downward toward the floor as if he were diving into it. His back was extremely rounded as he attempted to go into the squat exercise. His arms were stiff as he was pressing his hands tightly against his knees for support. His chest was collapsing downward along with his shoulders. His physical activity levels outside of school were 5.4 h/w. The ratio of his sedentary activities to his physical activities was 9.79:1. His phone usage was 24.5 h/w (the second highest in the study). Furthermore, he had the highest intake of fast food out of both groups—noting that he ate fast food 3 times a week, mostly at McDonald's.

Participant Illustrating Markedly Undesired Use of the Body and High Cultural Postural Capital

Figure 17: C3--Male from the Working Class Group Illustrating Several Markers for Highly Undesired Posture and High Cultural Postural Capital Leading to Squat Position during Postural Exercises

Findings for the Middle-Upper Class Group

The findings for the middle-upper class group showed that the average amount of home physical activity time for the participants was 5.93 hours per week. Of those hours, 1.61 hours were spent walking to and from school per week. In addition to the home physical activity time, only two of the 7 participants walked an additional 30 minutes a day. Also 4 of the 7 participants played outside with their friends or family, while two only did so sometimes and one did not. All of the participants indicated that at least one member of their family was physically active on a regular basis.

Furthermore, the middle-upper class group had a high fast food intake with only one participant stating that they never ate fast food, 4 stating that they ate fast food once a month or less and two stating that they ate fast food more than once a week. All of the participants said that they ate out and most of the participants indicated that the majority of their outside dining was at fast food restaurants. Most of the participants ate home-cooked meals which included meat, chicken, potatoes, cooked vegetables, soup, eggplant, pasta, couscous, salad, organic health foods such cereal bars and a variety of nuts, eggs and pita.

All of the participants from this group had access to a computer, TV, phone, and tablet at home. This group spent an average of 39.44 hours in sedentary activities a week. Of those hours, 26.97 hours were spent using electronic devices.

This group spent the most time watching TV, with an average of 14.83 h/w. The device with the second highest amount of usage was the computer which was used an average of 8.03 h/w. The device with the third highest usage was the phone with an average of 2.91 h/w. This group used the tablet with an average of 1.18 h/w.

Participant Postural Assessment

Good Use of the Body and Moderate Cultural Postural Capital (Moderately Good Posture)

There was one individual from the middle-upper class group who illustrated good posture with moderate cultural postural capital in the photographs but she didn't perform the postural exercises as desired and was also at risk for further postural decline. While P11 showed good markers for desired posture and moderate cultural postural capital in Figure 4 (shown both on p. 46 of the Methodology section and again on p.78 below), her posture was susceptible to poor habits that led to the deterioration of her posture as seen in both Figure 3 (p.45 and p.79) and Figure 5 (p.47 and p.80).

In Figure 4, P11 was moving her head forward and up as she was going into the squat position as well as illustrating a beautifully lengthened back and neck, however, at the same time the lower part of her body was not being supported at all and as a result she was balancing on her toes. This is not exemplary of desired use, although she does show qualities of good use. Furthermore, in Figures 3 and 5 (see p. 79 and 80 below), P11 is illustrating poor posture, both by rounding her back over the table in the group photo and through the iPosture illustrated while holding a phone. Though P11 showed markers for desired posture and moderate cultural postural capital in Figure 4, other factors, such as the lifestyle practices that were described in her questionnaire, interview and discussion as well as what was exhibited during my observations, were all taken into account in determining that her posture was also showing markers for further deterioration.

These factors suggest that P11's posture is at risk for further decline if she continues to engage in lifestyle practices that increase her cultural postural capital, such as excessive phone usage. Furthermore, her physical activity level outside of school was 2.83 h/w and the ratio of home sitting time to activity time was 12.14: 1. While she did appear to have low phone usage at 1.16 h/w, my

observations of her with her friends during our time together proved otherwise (see limitations section). P11 was the only participant from this group who stated that she never ate fast food.

Participants Illustrating Good Use of the Body and Moderate Cultural Postural Capital

Figure 4: P11--Female from the Middle-Upper Class Group Illustrating Good Markers for Desired Posture and Moderate Cultural Postural Capital Leading to Squat Position during Postural Exercises

Participants Illustrating Undesired Use of the Body While Eating

Figure 3: P11, P12, and P10--Females from the Middle-Upper Class Group Illustrating Several Markers for Undesired Posture While Eating

Participant Illustrating Undesired Use of the Body While Holding a Phone

Figure 5: P11--Female from the Middle-Upper Class Group Illustrating Undesired Use while Using a Phone.

Some Undesired Use of the Body and Increased Cultural Postural Capital (Average Posture)

Three participants from this group illustrated even less desired posture with increased cultural postural capital and continued to perpetuate the phenomena of performing the full squat by means of tightening their necks and thus disrupting the coordination between the head and back. Furthermore, they weren't able to perform the squat exercise as asked and as a result were leaning against or holding other parts of the body, inverting feet, or arching the back. P10 (see Figure 18, p.82 below), P13 (see Figure 19, p.83) and P16 (not pictured) illustrated some markers for undesired use of the body and increased cultural postural capital.

While there were also markers for some elements of desired use among these participants, there was more disruption of the balance and fluidity than the previous groups. For example, P10 exhibited a moderately lengthened back, but there was indication of excessive tension in her neck which caused her head to lean back and down thus perpetuating the imbalance. Her knees were pointing towards each other, rather than going outward and her feet were inverted. Furthermore, she was using her fingers for support on the floor. P13 was leaning his elbows on his upper thighs as he was going into the squat, thus disrupting the balance and pulling his head back and consequently tightening his neck. Though not pictured, P16 would have belonged to this group. He performed the postural exercises but did not do the squat with a free neck and lengthened back, or keep his head forward and up, nor did he extend his knees outward. He illustrated discoordination and lack of fluidity.

These participants' home physical activity time was 6.37 h/w for P10; 14 h/w for P13; and 9.33 h/w for P16. The ratio of sedentary activities to physical activities was 7.68:1 for P10; 2.75:1 for P13 and 3.26:1 for P16. Their phone usage varied with P10 using it 4.08 h/w, P13 claiming not to have used the phone at all (despite owning a phone and having had sent me text messages in the

past), and P16 using it 7 h/w. Regarding fast food intake, both P10 and P13 stated that they ate fast food once a month or less, and P16 stated that he ate fast food twice a week.

Participants Illustrating Some Undesired Use of the Body and Increased Cultural Postural Capital

Figure 18: P10--Female from the Middle-Upper Class Group Illustrating Some Markers for Undesired Posture and Increased Cultural Postural Capital in Squat Position during Postural Exercises

Figure 19: P13--Male from the Middle-Upper Class Group Illustrating Some Markers for Undesired Posture and Increased Cultural Postural Capital in Squat Position during Postural Exercises

Undesired Use of the Body and High Cultural Postural Capital (Poor Posture)

There were three participants from this group, P12 (see Figures 20 & 21, p.85 below), P14 (see Figure 22, p.86), and P15 (not pictured) who exhibited exceedingly undesired use with high cultural postural capital. P12 illustrated poor use by rounding her back in both photos, first as she was leading into the squat and also while in the squat position. In Figure 20 she was tightening her neck and tilting her head back as she was being pulled towards the floor by her shoulders and arms. In Figure 21, her back was rounded, she was leaning on her heels and using her hands for support on the floor. P14 also illustrated a rounded back, tight neck and the head pulling back and down as he was leading into squat position. His arms were leaning on his legs as his body was locked with tension thus emphasizing the discoordination and lack of fluidity. Though not pictured, P15 would have belonged to this group. He was a little overweight and exhibited undesired use with high cultural postural capital. He complained of severe back pain, particularly when sitting on the floor or in a computer chair.

The home physical activity time was 3.16 h/w for P12; 2.86 h/w for P14; and 3 h/w for P15. The ratio of sedentary activities to physical activities was 12.52:1 for P12; 8.55:1 for P14; and 19.83:1 for P15 (the highest in the study). P12 used the phone 2.33 h/w; P14 used it 3.5 h/w; and P15 used it 2.33 h/w. Both P12 and P14 stated that they ate fast food once a month or less. P15 said that he ate fast food at least once a week.

Participants Illustrating Undesired Use of the Body and High Cultural Postural Capital

Figures 20& 21: P12--Female from the Middle-Upper Class Group Illustrating Markers for Undesired Posture and High Cultural Postural Capital Leading to Squat Position and in Squat Position during Postural Exercises

Figure 22: P14--Male from the Middle-Upper Class Group Illustrating Markers for Undesired Posture and High Cultural Postural Capital Leading to Squat Position during Postural Exercises

Summary and Conclusions

Three participants in the working class group exhibited excellent use of the body and low cultural postural capital, representing the best posture in the study. However, one participant from this same group exhibited markedly undesired use of the body and high cultural postural, portraying the worst posture in the study. The five remaining participants fell into three categories: two exhibited good use of the body and moderate cultural postural capital, thus indicating moderately good posture; two exhibited some undesired use of the body and increased cultural postural capital, hence depicting average posture; and one exhibited undesired use of the body and high cultural postural capital study, consequently illustrating poor posture. From the results, we can learn that most working class students exhibited excellent to moderately good posture.

In the middle-upper class group three participants exhibited some undesired use of the body and increased cultural postural capital, characterizing average posture; three participants exhibited undesired use of the body and high cultural postural capital, thus illustrating poor posture. Only one participant from the middle-upper class group exhibited good use of the body and moderate cultural postural capital, hence depicting moderately good posture. We can see that the middle-upper class students exhibited undesired use of the body, and hence, average to poor posture.

How can we understand these results? As the research indicates the working class group was overall more physically active than the middle-upper class group, spending an average of 3 hours more a week doing physical activities. While both groups spent about the same amount of time engaging in sedentary activities, the working class group spent 4 hours less in front of the TV and 3.5 hours less in front of the computer than the middle-upper class group. However, the working class group spent an average of 6 hours more a week using the phone. Watching TV had the highest number of hours of usage for both groups. Nonetheless, the working class group had an overall lower ratio of sedentary

activity to physical activity time with 2.96:1 hours per week while the middle-upper class held the ratio of 4.54:1 hours per week.

This study drew largely from Bourdieu's premise for class differences as indication for cultural habits. His basis was evident in this study's findings which indicated higher access and usage of electronic devices by the middle-upper class groups (who owned every electronic device measured in the study), as opposed to limited access and usage of electronic devices by the working class group (where nearly half of the group didn't have access to 3 out of the 4 devices). This discrepancy was further highlighted by the majority of the middle-upper class group who illustrated average and poor posture, and the majority of the working class group who exhibited excellent or moderately good posture. This disparity clearly underscores Bourdieu's cultural approach to structural inequality (Bourdieu 1977). Moreover, Max Weber's shrewd insight as to how custom had become engraved in society through the unreflective habits of the 'masses' (1968) still holds true today as indicated by customs that are perpetuated and maintained often unconsciously by the masses, thus leading to their collective way of acting (1978).

Leaning on Bourdieu's class analysis and on the concept of postural culture, this study shows some stark differences between the two groups. The working class group was overall more physically active than the middle-upper class group outside of school. What's more, amid my observations at the public school during recess for the working class group, I saw all of the school children at play at all times. They could be seen running around, playing hopscotch or other types of circle games. The females were often found running, dancing, jumping or playing on floor games in the hallways or outside. The males were running around outside and sometimes played soccer and basketball in the courts and field. I never saw a single child using a phone during school hours throughout my duration at the public school, as the working class group had their phones collected by the classroom teacher at the beginning of the day and returned at the end of the day. In contrast, the middle-upper class group

described sitting and talking with their friends during recess at their schools, in addition to some active play. Furthermore, they spoke of other students in their class who used their phones and headphones during lessons.

Not surprisingly, the findings in the study indicated that the working class group depicted traits of lifestyles practices that were more indicative of rural lifestyles than urban lifestyles: on average they walked more every day and played outside more. Moreover, while both groups spent about the same amount of time engaging in sedentary activities, the working class group spent much less time in front of the TV and computer than the middle-upper class group. Yet surprisingly, the working class group's overall phone usage far exceeded that of the middle-upper class group. However, despite the high level of phone usage, the working class group still maintained a much lower ratio of sedentary activity time to physical activity time than the middle-upper class group.

Technology Usage

A lifestyle practice of paramount importance in this study was technology usage. A closer examination of what happens to the body with each device suggests that not all technology is created equal in its effect or impact on the body. Sitting in front of a TV or computer could certainly compel one to arch, slouch, or round the back, but the head still remains at eye level with the screen and perhaps it can explain why although TV usage was the most used electronic device in both groups, it didn't serve as a single significant factor for undesired posture in the study. In contrast, looking down at a smartphone or tablet requires the head to face downward and as was explained earlier, if you are looking at a smartphone in your lap, your neck is holding up what feels like 20 or 30 pounds (Wilson 2012) which further strains the neck and spine. This could accelerate the rate of developing undesired posture, such as iPosture, which was evident in C3 and C9—the two participants from the

working class group with both the highest phone usage and the highest cultural postural capital in the study.

Exercise

Certain exercises, such as salon dancing, which was the main form of physical activity for C6 from the working class group-- who exemplified excellent use of the body (see Figure 9, p.63), opens the body up and allows the body to move freely without strain or tension. Still, exercise can also cause harm to posture if it is done excessively or intensively. Physical activities like gymnastics or acrobatics, force the body to shrink or tighten throughout training and performance. Not only can long-term training cause of a lot of strain on the body, it can also lead to reduction in growth (Bass et al., 2002).

Therefore, when I analyzed the data for two participants from the middle-upper class group, P10 (see Figure 18, p.82) and P13 (see Figure 19, p.83), who each engaged in gymnastics and acrobatics respectively, I could not overlook the impact of these lifestyle practices on their bodies. They had high physical activity levels and moderate to low ratios of sedentary behavior to physical activity as well as low phone and tablet usage. However, both exhibited a lot of tension in their necks while performing the squat exercise—tension and strain is common in those types of physical activities. In an article by Robert Rickover, a teacher and educator of the Alexander Technique, which discussed a New York Time article, "Doctors See a Big Rise in Injuries as Young Athletes Train Nonstop, (Pennington 2005)," he underscores this growing epidemic for teenagers and their parents. As Rickover states, "a huge emphasis on *quantity* of exercise almost completely obliterated any concern with the *quality* with which the exercise was performed. All too often fitness programs tend to be about things like how many miles you run, how many pitches you pitch, or how many hours you swim rather that how well you're using your body as you run, pitch or swim" (2013). The benefits of

having high physical activity levels are negated if those activities cause more harm than good in the long-term. Furthermore, these are pertinent examples of how even individuals with good use are at risk for rapid decline if there are several lifestyle practices at play that interfere with desired use.

Diet

The middle-upper class group was part of a notably health conscious population: their meals at home were very healthy and often organic. One mother would make me special cookies from only organic ingredients. Many of the children ate home-cooked meals. Yet, despite this, most of the participants indicated that the majority of their outside dining was at fast food restaurants, with only one participant stating that she never ate fast food. In contrast, the working class group had a low fast food intake with 5 out of the 8 participants stating that they never ate fast food and only one stating that they ate fast food more than once a week. All of the working class participants described eating home cooked meals. Given that the working class group came from a lower SES, it is understandable why they wouldn't be able to afford eating out as often as the middle-upper class students, who came from a higher SES group. However, the higher fast food intake from the middle-upper class group contradicts the lifestyle they are trying to portray.

Cultural Habitus

Both the working class and middle-upper class groups engaged in lifestyle practices that indicated not only high technology usage but also high sedentary behaviors. Both groups of children spent at least 26.5 hours a week sitting in a chair at school while the amount of time spent in sedentary activities at home was nearly 40 hours per week. As school continues to be the strongest cultural habitus for the behaviors of children in Western cultures world-wide, the most habit-forming, frequent and prolonged behavior is sedentary behavior, which is practiced in the classroom daily and over the duration of many years. Bourdieu's (1967) depiction of 'school' as a 'habit-forming force' reifies how

these patterns can be applied to different areas of thought and action, as indicated by the copious amounts of time spent in sedentary activities at home.

In spite of that, there were three participants in the study from the working class group, C6, C4 and C2, who exemplified excellent posture (see Figure 9, p.63; Figure 10, p.64; and Figure 11, p.65 respectively). Furthermore, they exhibited low cultural postural capital, high physical activity levels, low ratios of sedentary behaviors to physical activity, and little to no fast food intake. Though they made up one third of their group, a study with a larger sample pool would provide more insight as to whether these results are an anomaly or rather, archetypical of individuals whose healthy lifestyle practices are manifested in their postures.

In contrast, two participants from that same group C3 and C9 (see Figure 17, p.75 and Figure 16, p.73 respectively), stood out for the opposite reason. They exemplified markers for poor posture with high cultural postural capital, low physical activity levels and moderate to high fast food intake. Additionally, their high phone usage and consequent high cultural postural capital suggests a strong relationship between excessive technology usage and poor posture, as was evident in both of them exhibiting markers for iPosture (Mientka 2013).

For disparate reasons, the relationship of all of these 5 participants' postures with their lifestyle practices fall in-line with Shilling's claim that human biology is formed by social factors, where the environment is 'written on the body' (Gimlin 2007).

Accessibility and Structural Inequality

The explanation of why certain devices were used more by each group—such as more computer time for the middle-upper class group and more phone usage for the working class group--could be reasoned through Bourdieu's cultural approach to understanding structural inequality (1977). Each

participant in the middle-upper class group had every device listed in the study, while 4 out of 8 participants from the working class group (1 of participant in that group didn't fill out the sedentary behavior portion of the questionnaire) didn't have either one or more of three of the devices (computer, TV or tablet). However, all 8 of the participants from the working class group had a phone.

As technology usage becomes more pervasive and readily available in schools, Weber's notion of 'status honor', which was once used as a distinguishing trait of status that only granted certain groups the prestige associated with particular lifestyles (Cockerham 1993) is now exemplified by Western lifestyle practices, where the prestige associated with obtaining cultural capital such as electronic devices is becoming more readily available to the masses.

The findings in my study illustrate that phones were available to every participant in the study, particularly among the working class group who didn't have access to all of the other devices. Could their easy accessibility be the reason for the high average of usage among this working class group? If so, could it be used as an impetus to gain cultural capital as was indicated in Elias's study (2009) of Russian youth immigrants who sought out technology usage as a means to gain upward mobility and use it as cultural capital? Or perhaps, could the pervasiveness of phone usage be indicative of the emergence of Western lifestyle practices that are infiltrating otherwise seemingly isolated populations (Offer 2007)? All of these questions are worth exploring further and a follow-up study with a larger sample pool could provide more insight.

What's more, the differences in socio-economic statuses between both groups also suggest that other lifestyle practices, such as access to different activities, could also influence the amount and quality of physical activities exhibited by the participants. The types of activities that the working class group engaged in included activities with easy access such as walking, basketball, dance,

swimming, soccer, running and bike riding. The types of activities that the middle-upper class group engaged in included the aforementioned easy access activities, as well as activities that depended on instruction or equipment, such as sport games, gymnastics, karate, tennis, gym, and acrobatics (see Appendix Figure 28). This is significant, because the middle-class participants' physical activity levels were contingent to their participation in these mostly scheduled and instruction-based activities, as opposed to the working class group, who were able to perform their physical activities at their own discretion. Perhaps this attributed to the working class group spending an average of 3 hours more per week engaging in physical activities than the middle-upper class group.

Both groups illustrated further incongruity in access to technology at the schools. The middle-upper class group described having frequent access to iPads and computers provided by the school. Their computer lab hours alternated between 5 hours one week and 3 hours the following week and continued in this manner throughout the school year. This was a complete contrast to the working class group whose access to the computer lab was based on the availability of the lab and those visits were few and far between.

Lifestyle Practices and Posture

In closing, we see that lifestyle (defined as technology usage, eating habits, and exercise habits) are important factors which are all somewhat connected to body posture. Yet, this conclusion is not conclusive; we also see that some factors are more important than others. Among all of these different kinds of components that structure lifestyle, the use of the phone is critical — it is a major component to defining posture. More so than diet and exercise, the amount of phone usage gives us some insight into its relationship with posture. This is evident in Mientka's (2013) article delineating iPosture. It is also evident in my own study. For example, two students, both from the working class group, had the highest phone usage in the study and consequently the worst postures in the study

(see Figure 17, p.75 and Figure 16, p.73), thus underscoring other lifestyle practices such as eating less junk food or exercising more.

Interestingly, most of the average and poor postures came from the middle-upper class group. This group had many opportunities to engage in behaviors leading to desired posture, with lots of extracurricular activities and access to healthy foods… yet why were they still not illustrating excellent posture? Perhaps their higher class (characterized by their affluence) enabled them to eat out more frequently than the working class group. The foods found in fast food restaurants are infamously less healthy than home cooked meals. Furthermore, some of the exercises performed by the middle-upper class group, such as acrobatics and gymnastics, can be detrimental to their postures by often forcing their bodies to shrink or tighten throughout training and performance. These bodily constraints not only restrict movement but can also lead to reduction in growth (Bass et al., 2002). Finally, the overindulgence of sedentary behaviors resulting from the plethora of hours spent behind screens (TV, computer, tablet and phone), clearly depicts the strong influence that extended use of technology has on posture.

Conclusions are complex but some things are very clear: the vast differences in lifestyle practices between and even within each group provided insight as to how influential all of the lifestyle practices examined in the study--namely technology usage, exercise, and diet--were on posture. If the desired lifestyle practices of three students from the working class group who had ideal posture included eating home cooked meals, extensive exercise, and low usage of the phone and other technologies, and in contrast, only one student from the middle-upper class had moderately good posture (that showed signs of rapid decline by engaging in harmful habits), this research could be an important message to parents and teachers. Furthermore, introducing the guidelines for what is desired and undesired posture based on the principles the Alexander Technique enabled me to assess

and explain children's postures in an unprecedented way in academic literature. Moreover, this study provided insight as to how even individuals with desired posture are at risk for increased cultural postural capital if they continue to engage in unhealthy lifestyle practices. That said, another study with a larger sample size should be conducted to offer further insight into these matters.

Appendix

Working Class Group	Participation Level	Age	Sex	Ethnicity
C1	Full	11	Female	Libyan
C2	Full	11	Male	Ethiopian
C3	Full	10.5	Male	Georgian
C4	Full	10	Male	Ethiopian
C5	Full	10.5	Female	Ethiopian
C6	Full	10	Female	Russian
C7	Full	10.5	Female	Ethiopian
C8	Full	10	Female	Uzbekistan
C9	Full	10.5	Female	Ethiopian

Table 1. Working Class Public School Students Participant Demographics Matrix

Middle-Upper Class Group	Participation Level	Age	Sex	Ethnicity
P1	Full	11	Female	Polish/Hungarian/German
P2	Full	11.5	Female	Polish/Russian/Ukrainian
P3	Full	11	Female	Polish
P4	Full	11	Male	Polish
P5	Full	10	Male	Polish
P6	Q & I	11	Male	Polish
P7	Q, I, E	11	Male	Iraqi/Czech

Table 2. Middle-Upper Class Private Students Participant Demographic Matrix

**Q&I denotes participant that only completed the Questionnaire and Interview (he did not perform the postural exercises and was not photographed). Q,I, E denotes participant that completed the Questionnaire, Interview, and Postural Exercises (he was not photographed).

1). Do you do any type/s of physical activity or exercise (such as walking, running, swimming, playing sports, karate, going to the gym, riding a bicycle, dancing, or other)?

If so, which activities? _____

How many times a week? _____

For how long? _____

Please list the type/s of physical activity or exercise you do, especially if there is more than one. If you don't do a physical activity or exercise, please write "none".

2). How do you get to school? Please circle which of the following applies to you and write how long it takes you to get to school.

I walk to school. It takes me _____ minutes

I ride my bicycle to school. It takes me ___ minutes.

I arrive to school in a car. It takes me ____ minutes.

If you arrive to school in another way, please specify how_____. It takes me ____ minutes.

3). Do you walk for 30 minutes or more a day (this does not include any physical activity mentioned previously)? If so, please describe:

4). Do you play outside with friends? Do you play outside with your family?

If yes, then please describe the types of activities and their length of time:

5). Do members of your family (mother, father, brothers or sisters) exercise or do physical activities (like walking, running, swimming, playing sports, karate, going to the gym, ride their bicycle, dance, or other)? Please indicate which members of your family do these activities and the types of exercise or physical activities that they do:

6). Does sitting in a chair cause you to feel uncomfortable or cause back pain?

7). How many minutes or hours do you sit in a car every day?

How many minutes do you sit on the bus every day?

8). Does siting in a car, bus or train cause you to feel uncomfortable or cause back pain?

9). Do you sit for an extended period of time on a chair at home? On the bed? On the couch? On the floor? If there are other places that you sit for an extended period of time at home please indicate:

10). Please circle the following activities that you do. Please write the length of time that you spend sitting during these activities every day. For example: I sit and watch TV 3 hours a day. Or: I sit and eat lunch 45 minutes a day.

a). I sit in front of the computer to play games, use Facebook, or do my homework for _____.

b). I sit and watch TV for_____.

c). I sit and eat lunch for _____.

d). I sit and eat dinner for _____.

e). I sit and speak on my phone for _____.

f). I sit and play on my iPad or tablet for _____.

g). I sit to prepare homework at a desk or another place for _____.

h). If you sit for any other activity at home that wasn't mentioned above please describe them below:

I sit to _____ for _____.

11). Has sitting during any of these activities at home ever caused you to feel discomfort or cause you back pain?

12). If you sit for an extended period of time during the day or evening for any other activity that wasn't mentioned in the questionnaire, please describe the activity:

Table 3. Student Questionnaire

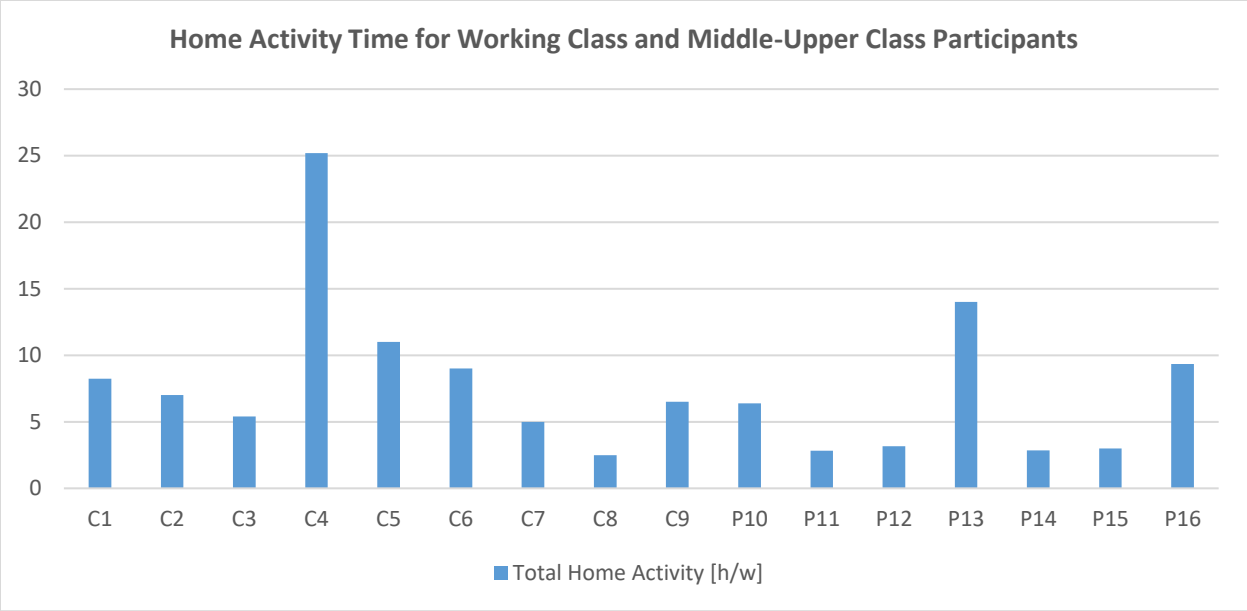

Figure 23: Physical Activity Done Outside of School (Home) for Working Class Group (Public School Students C1-C9) and Middle-Upper Class Group (Private Students P10-P16). Hours per Week.

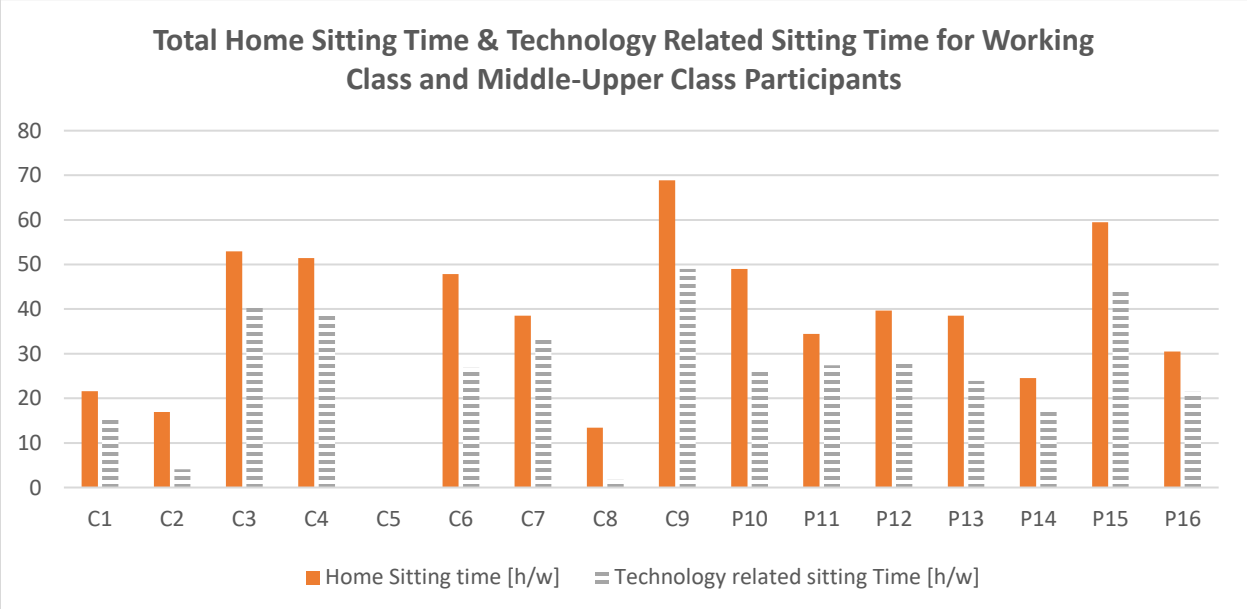

Figure 24: Sitting Time at Home & Amount of that Sitting Time that Was Related to Technology Usage for Working Class Group (Public School Students C1-C9) and Middle-Upper Class Group (Private Students P10-P16). Hours per Week.

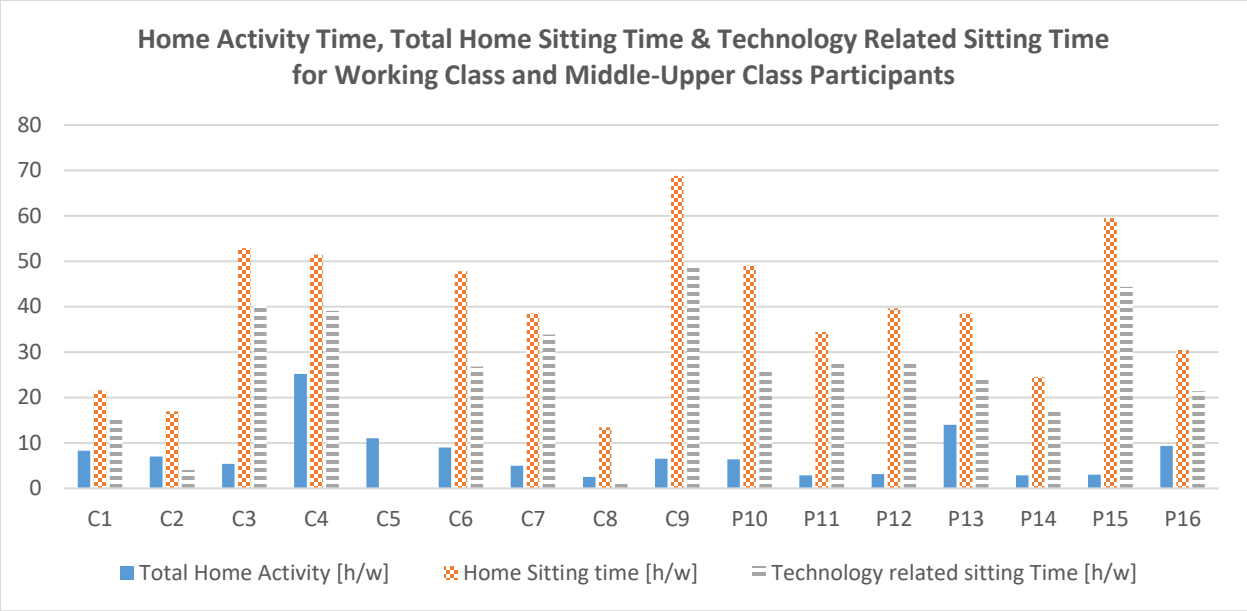

Figure 25: Physical Activity Done Outside of School (Home), Sitting Time at Home and the Amount of that Sitting Time that Was Related to Technology Usage for Working Class Group (Public School Students C1-C9) and Middle-Upper Class Group (Private Students P10-P16). Hours per Week.

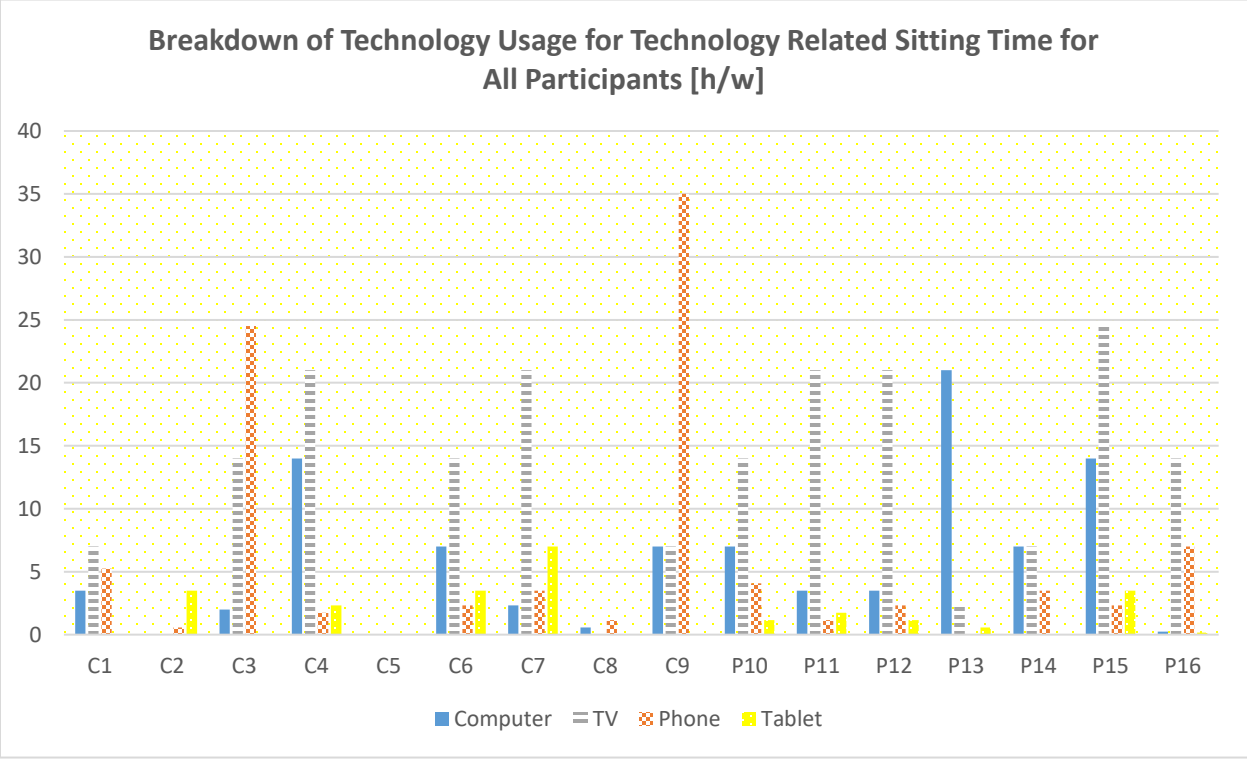

Figure 26: Breakdown of Different Types of Technology Devices and Usage by Working Class Group (Public School Students C1-C9) and Middle-Upper Class Group (Private Students P10-P16). Hours per Week.

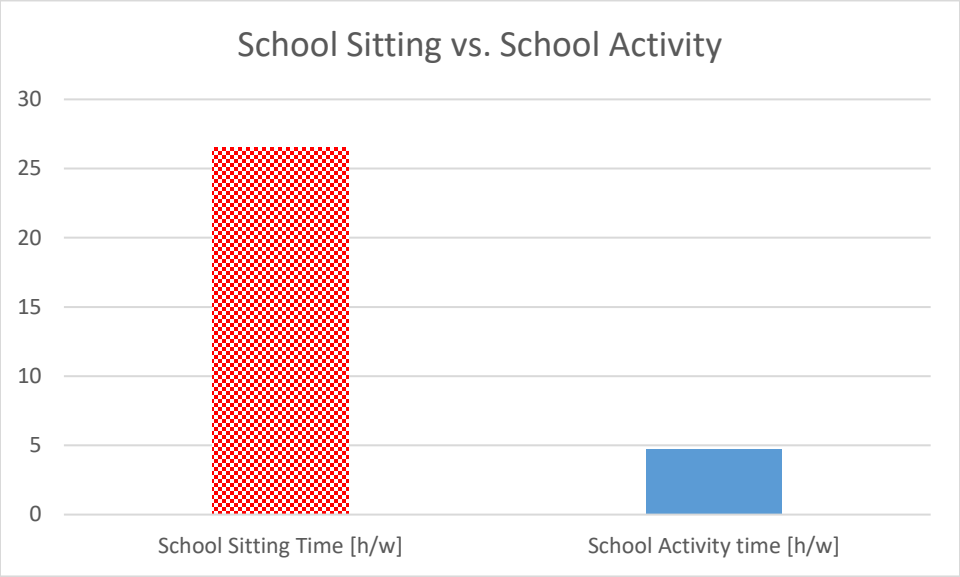

Figure 27: Amount of Sitting Time at Public School & Amount of Time Spent Doing Physical Activities at Public School. Hours per Week.

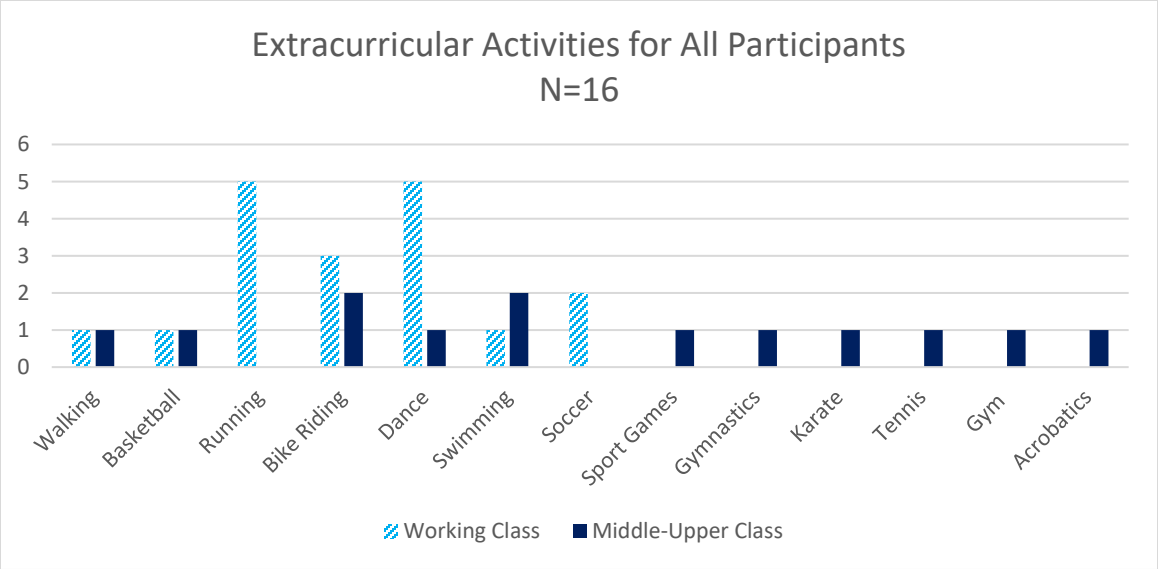

Figure 28: Extracurricular Activities Done by All Participants from both the Working Class (9 Participants) and Middle-Upper Class Groups (7 Participants).

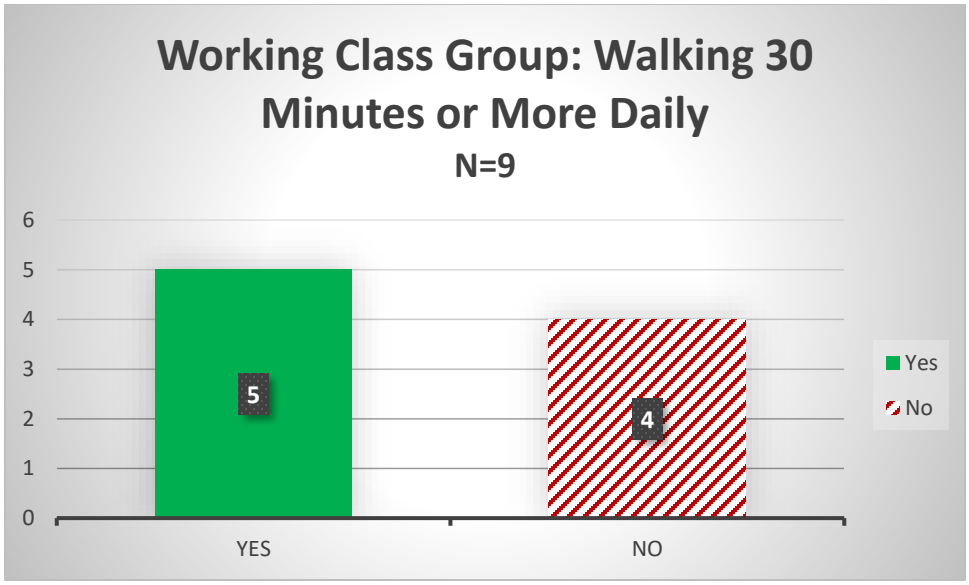

Figure 29: Number of Students from Working Class Group Who Walk for 30 Minutes or More Daily.

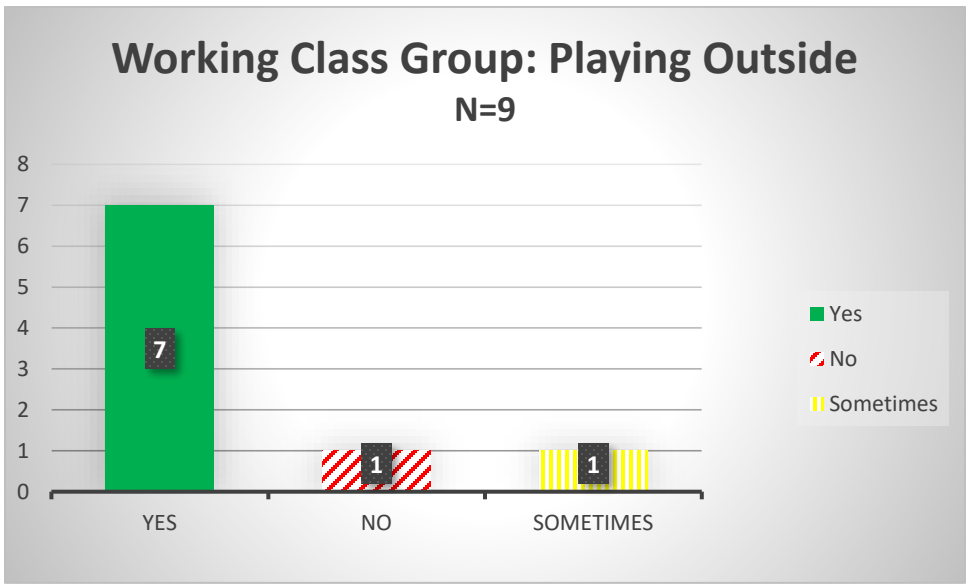

Figure 30: Number of Students from Working Class Group Who Play Outside.

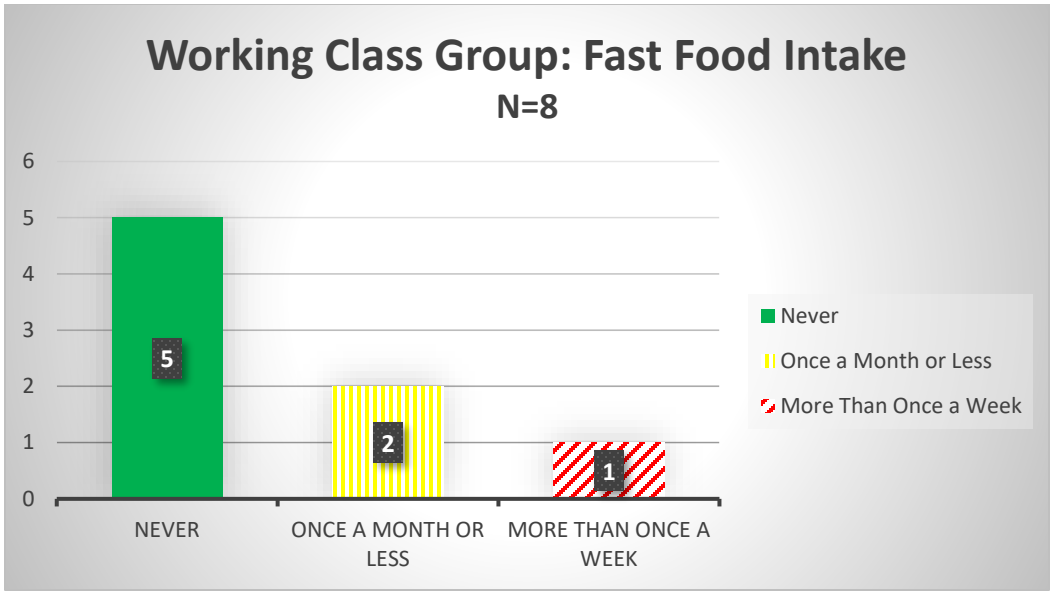

Figure 31: Frequency of Fast Food Intake from Working Class Group (One Participant in this Group Did Not Provide Dietary Information).

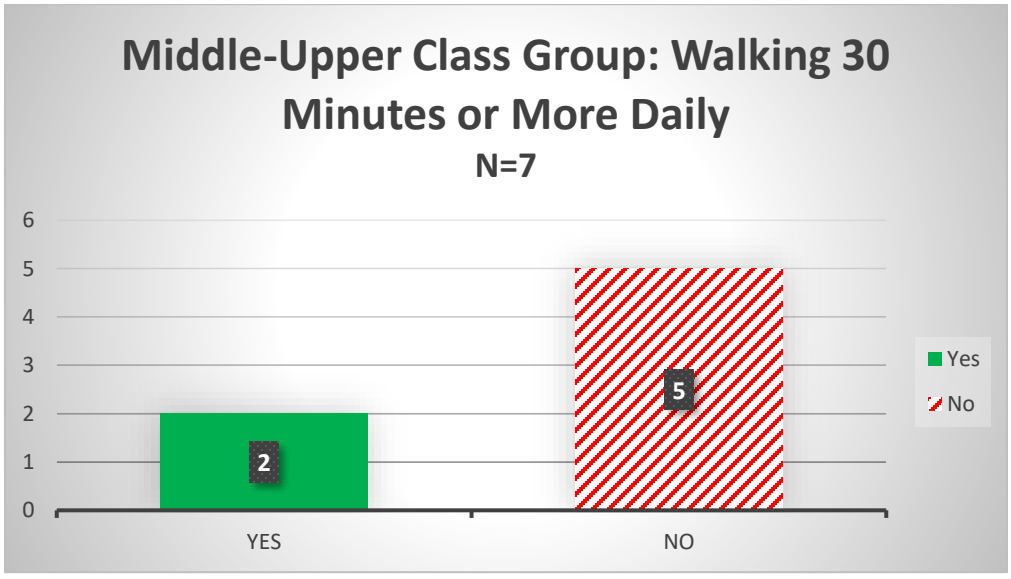

Figure 32: Number of Students from Middle-Upper Class Group Who Walk for 30 Minutes or More Daily.

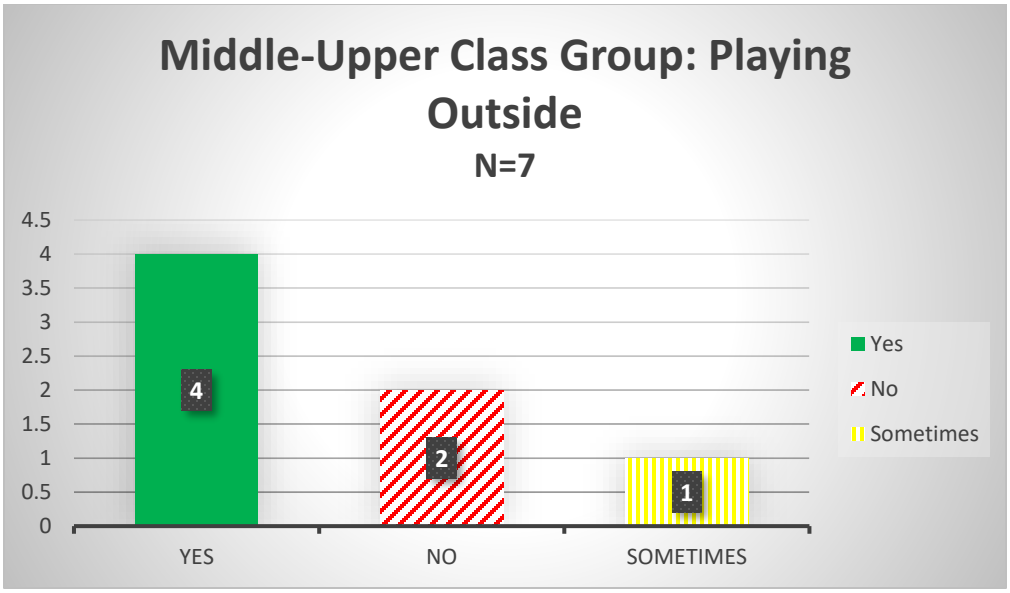

Figure 33: Number of Students from Middle-Upper Class Group Who Play Outside.

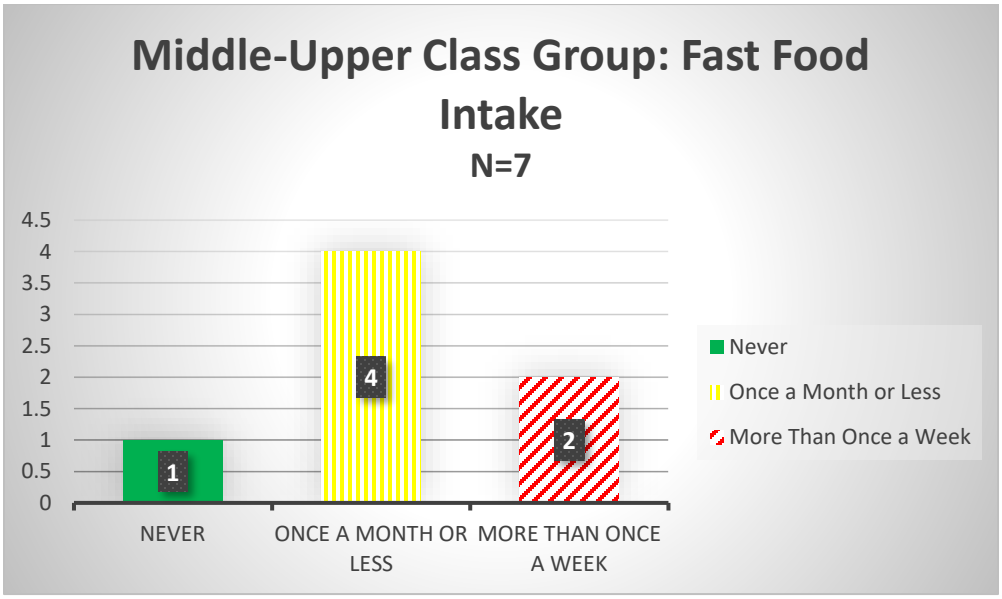

Figure 34: Frequency of Fast Food Intake from Middle-Upper Class Group.

Older Model of Excellent Use of the Body and Low Cultural Postural Capital

Figure 35: Older Male Illustrating Excellent Markers for Desired Posture in Full Squat Position (Picture taken from Public Domain).

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