

Evolving Ideals of Male Body Image as Seen Through Action Toys

Harrison G. Pope, Jr.,^{1,2*} Roberto Olivardia,^{1,3} Amanda Gruber,^{1,2} and John Borowiecki¹

¹ Biological Psychiatry Laboratory, McLean Hospital, Belmont, Massachusetts

² Harvard Medical School, Boston, Massachusetts

³ University of Massachusetts, Boston, Massachusetts

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Abstract: Objective: We hypothesized that the physiques of male action toys — small plastic figures used by children in play — would provide some index of evolving American cultural ideals of male body image. **Method:** We obtained examples of the most popular American action toys manufactured over the last 30 years. We then measured the waist, chest, and bicep circumference of each figure and scaled these measurements using classical allometry to the height of an actual man (1.78 m). **Results:** We found that the figures have grown much more muscular over time, with many contemporary figures far exceeding the muscularity of even the largest human bodybuilders. **Discussion:** Our observations appear to represent a "male analog" of earlier studies examining female dolls, such as Barbie. Together, these studies of children's toys suggest that cultural expectations may contribute to body image disorders in both sexes. © 1999 by John Wiley & Sons, Inc. *Int J Eat Disord* 26: 65–72, 1999.

Key words: male body image; male action toys; body image disorders

INTRODUCTION

A growing body of literature has described disorders of body image among men. For example, such disturbances are frequently documented in men with eating disorders. In one study, college men with eating disorders reported a degree of body dissatisfaction closely approaching that of women with eating disorders, and strikingly greater than comparison men (Olivardia, Pope, Mangweth, & Hudson, 1995). Other studies of men with eating disorders have produced similar findings (Andersen, 1990; Schneider & Agras, 1987). Even in studies of male students without eating disorders, the prevalence of body dissatisfaction is often striking (Mintz & Betz, 1986; Drownowski & Yee, 1987;

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Correspondence to: Harrison G. Pope, Biological Psychiatry Laboratory, McLean Hospital/Harvard Medical School, Belmont, MA 02178.

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Dwyer, Feldman, Seltzer, & Mayer, 1969). Body image disturbances may be particularly prominent in American culture. In a recent crosscultural comparison, groups of American college men reported significantly greater dissatisfaction with their bodies than comparable groups in Austria (Mangweth et al., 1997).

Another form of body image disturbance, also frequently affecting men, is body dysmorphic disorder (Phillips, 1991, 1997; Hollander, Cohen, & Simeon, 1993). Individuals with this disorder may develop obsessional preoccupations that their facial features are ugly, that their hairlines are receding, or that their penis size is too small — to name several of the more common presentations. Recently, we have described another form of body dysmorphic disorder found in both sexes, but probably more prevalent in men, which we have called "muscle dysmorphia" (Pope, Gruber, Choi, Olivardia, & Phillips, 1997). Individuals with muscle dysmorphia report an obsessional preoccupation with their muscularity, to the point where their social and occupational functioning may be severely impaired. For example, they may abandon important social and family relationships, or even relinquish professional careers, in order to spend more time at the gym (Pope et al., 1997). Many report that they refuse to be seen in public without their shirts on because they fear that they will look too small (Pope, Katz, & Hudson, 1993). Often they use anabolic steroids or other performance-enhancing drugs, continuing to take these agents even in the face of serious side effects because of persistent anxiety about their muscularity (Pope et al., 1993; Pope & Katz, 1994).

In many ways, muscle dysmorphia appears to be part of the "obsessive-compulsive spectrum" of disorders (Hollander, 1993; Phillips, McElroy, Hudson, & Pope, 1995). It is characterized by obsessional preoccupations and impulsive behaviors similar to those of classical obsessive-compulsive disorder. If this hypothesis is correct, it is natural to ask why modern American men with muscle dysmorphia would have developed this particular outlet for their obsessions, as opposed to a more traditional symptom pattern such as hand-washing or checking rituals.

One possible explanation for this phenomenon is that in our culture, the ideal male body is growing steadily more muscular. With the advent of anabolic steroids in the last 30 to 40 years, it has become possible for men to become much more muscular than is possible by natural means. Bodybuilders who won the Mr. America title in the presteroid era could not hope to compete against steroid-using bodybuilders today (Kouri, Pope, Katz, & Oliva, 1995). The public is exposed daily, in magazines, motion pictures, and other media, to increasingly—and often unnaturally—muscular male images. Some individuals, responding to these cultural messages, may become predisposed to develop muscle dysmorphia.

In an attempt to provide some quantitative data bearing on this hypothesis, we examined the physiques of American action toys over the last 30 years.

METHODS

Action toys are small plastic figures, typically ranging from 3 3/4 in. to 12 in. in height, used by children in play, and frequently collected by adult hobbyists. Among the best known examples are the GI Joe figures, Star Wars and Star Trek characters, Superman, Spiderman, and Batman. Contemporary versions of these figures are readily available at toy stores and vintage figures may be purchased through a vast and well-organized collectors' market. Extensive reference works, such as the 480-page *Encyclopedia of GI Joe* (Santelmo, 1997), document the evolution of these figures over the years. We chose to

study these toys because, unlike cartoon characters or movie stars, they can be readily physically measured, allowing accurate comparisons between figures of different eras.

We consulted with various action toy experts to ascertain toys which had been produced in various iterations by the same manufacturer over a period of 20 years or more. To obtain an objective index of the popularity of specific toys, we consulted the 1st through 15th annual sales surveys by *Playthings* magazine, published in the December issue of each year from 1983 to 1997 (*Playthings* magazine), to confirm that the toy had been among the 10 best-selling toy product lines in several years spanning the last two decades. We also required that the toy represent an actual male human being (such as a soldier or Luke Skywalker), rather than a nonhuman creature (such as Mr. Potato Head or the Teen-Age Mutant Ninja Turtles). Two toy product lines met all of these criteria: the GI Joe series manufactured by the Hasbro Toy Company since 1964 and the Star Wars figures manufactured by the Kenner Toy Company (a subsidiary of Hasbro) since 1978. We then purchased representative examples of these figures from different time periods. We also visited a branch of a large toy store chain and purchased additional examples of toys identified by store officials and by the most recent *Playthings* surveys as the most popular contemporary male action figures. Some of these latter figures, such as Batman and the Mighty Morphin Power Rangers, might not be considered completely "human," in that they possess powers beyond those of a real human being. Others, such as the X-Men, are mutants of human beings. However, they all possess essentially human bodies.

We then measured the waist, chest, and bicep circumference of all the figures and scaled these measurements using classical allometry (Norton, Olds, Olive, & Dank, 1996) to a common height of 1.78 m (70 in.).

RESULTS

GI Joe

The action toy with the longest continuous history is GI Joe. The Hasbro Toy Company first introduced GI Joe as an 11 1/2-in. posable figure in 1964 (Santelmo, 1997). This figure continued without a change in body style as the GI Joe Adventurer in 1970 to 1973. It developed a new body style from 1973 to 1976 as the GI Joe Adventurer with kung-fu grip and lifelike body. In the late 1970s, production of the 11 1/2-in. figures was discontinued, being replaced by a series of 3 3/4-in. figures that was introduced in 1982. These smaller figures continued through 11 series over the next 10 years, eventually attaining a height of 4 1/2 in. and culminating in the GI Joe Extreme. This was a 5-in. figure (5.8 in. with knees and waist straightened) that was introduced in 1995 and is still available on the shelves of toy stores today. Meanwhile, the 11 1/2-in. figures were reintroduced in 1991 and continue to be manufactured to the present.

We purchased three representative 11 1/2-in. figures: a 1973 Adventurer with the original body in use since 1964, a 1975 Adventurer with the newer lifelike body, and a 1994 Hall of Fame figure. A photograph of these three figures appears in Figure 1 and their dimensions are shown in Table 1. Not only have the figures grown more muscular, but they have developed increasingly sharp muscular definition through the years. For example, the earliest figure has no visible abdominal muscles; his 1975 counterpart shows some abdominal definition; and the 1994 figure displays the sharply rippled abdominals of an advanced bodybuilder. The modern figure also displays distinct serratus muscles

along his ribs — a feature readily seen in bodybuilders but less often visible in ordinary men.

We also purchased several of the smaller figures for comparison — a 1982 Grunt, a 1982 Cobra soldier (GI Joe's arch enemy), and a current GI Joe Extreme. As shown in Figure 2, the contemporary GI Joe Extreme dwarfs his earlier counterparts with dramatically greater musculature and has an expression of rage which contrasts sharply with the bland faces of his predecessors. Although the body dimensions of the earlier small action figures cannot be accurately estimated because of their layer of clothing, the GI Joe Extreme is more easily measured (see Table 1). If extrapolated to 70 in. in height, the GI Joe Extreme would sport larger biceps than any bodybuilder in history.

Luke Skywalker and Hans Solo

A similar impression emerges upon examining the original (1978) versus the contemporary 3 3/4-in. figures of *Star Wars* characters Luke Skywalker and Hans Solo (manu-

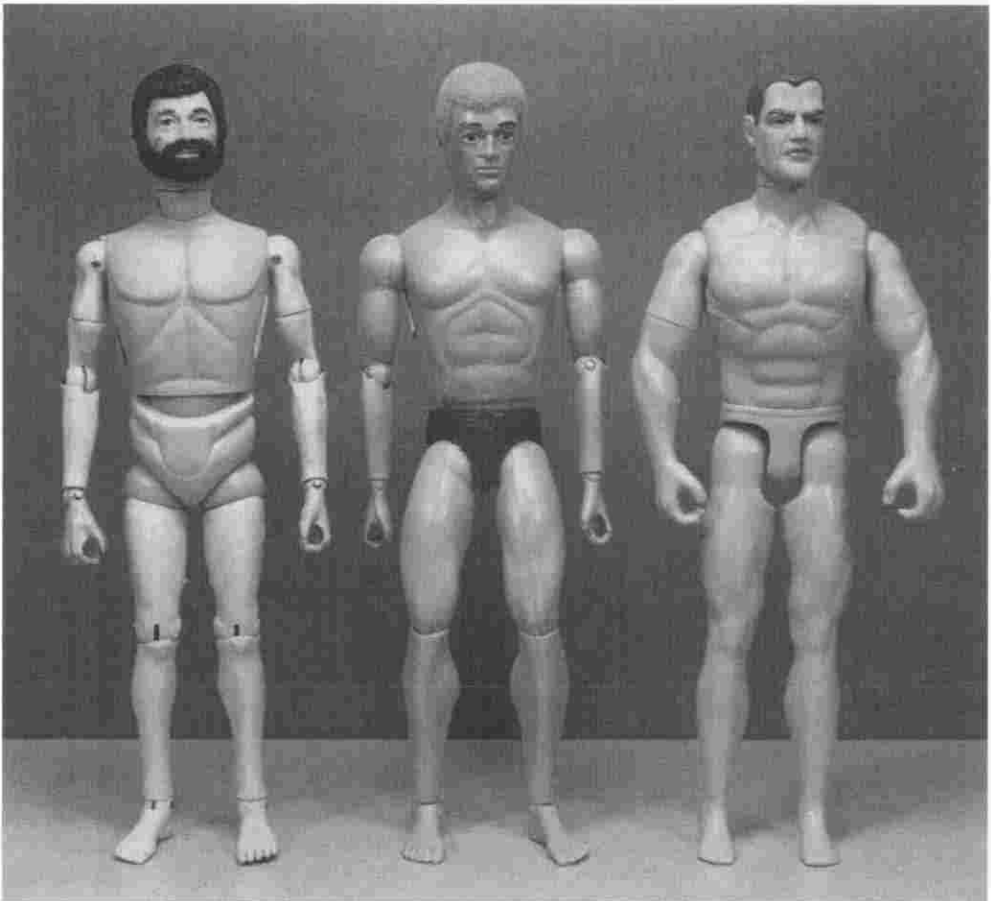


Figure 1. GI Joe Land Adventurer with original body in use since 1964 (left); GI Joe Land Adventurer with lifelike body, 1975 (middle); and GI Joe Hall of Fame Soldier, 1994 (right) (Hasbro).

Table 1. Measurements of representative action toys extrapolated to a height of 70 in.

Toy, Date	Actual Measurements (in.) ^a				Extrapolated to Height of 70 In. ^a		
	Height	Waist	Chest	Biceps	Waist ^b	Chest ^b	Biceps ^b
GI Joe Land Adventurer, 1973 (with original body in use since 1964)	11.5	5.2	7.3	2.1	31.7	44.4	12.2
GI Joe Land Adventurer, 1975 (with new body introduced in 1974)	11.5	5.2	7.3	2.5	31.7	44.4	15.2
GI Joe Hall of Fame Soldier, 1994 (with body introduced in 1991)	11.5	4.8	7.1	2.7	29.2	43.2	16.4
GI Joe Extreme, 1998	5.8	3.0 ^c	4.5 ^c	2.2	36.5 ^c	54.8 ^c	26.8
The Gold Ranger, 1998	5.5	2.7 ^c	3.6 ^c	1.4 ^c	34.4 ^c	45.8 ^c	17.8 ^c
Ahmed Johnson, 1998	6.0	3.0	4.1	2.0	35.0	47.8	23.3
Iron Man, 1998	6.5	2.6	4.7	2.1	28.0	50.6	22.6
Batman, 1998	6.0	2.6	4.9	2.3	30.3	57.2	26.8
Wolverine, 1998	7.0	3.3	6.2	3.2	33.0	62.0	32.0

^aMeasurements estimated to the nearest 0.1 in.

^bFor comparison, the mean waist, chest, and biceps circumferences of 50 Australian soccer players, scaled to a slightly shorter height of 170.2 cm (67 in.), were found to be 29.6 in., 36.3 in., and 11.8 in., respectively (19).

^cThese numbers are reduced by about 5% from actual measurements to compensate for the thickness of the figure's clothes and equipment.

factured by the Kenner Toy Company). As shown in Figure 3, Luke and Hans have both acquired the physiques of bodybuilders over the last 20 years, with particularly impressive gains in the shoulder and chest areas. Again, the clothing on these small plastic figures precludes accurate body measurements, so that they are not included in Table 1.



Figure 2. GI Joe Sergeant Savage, 1982 (left); GI Joe Cobra Soldier, 1982 (middle); and GI Joe Extreme Sergeant Savage, 1998 (right) (Hasbro).



Figure 3: Luke Skywalker and Hans Solo, 1978 (left); Luke Skywalker and Hans Solo, 1998 (right) (Kenner).

Modern Figures

Figure 4 depicts five more examples from the most popular contemporary lines of male action figures. As mentioned earlier, it might be argued that most of these characters are not entirely human, in that they possess powers beyond those of real people. Nevertheless, they are given fundamentally human bodies, but with musculature that ranges from merely massive to well beyond that of the biggest bodybuilders (Table 1).

DISCUSSION

We hypothesized that action toys would illustrate evolving ideals of male body image in the United States. Accordingly, we purchased and measured the most popular male human action figures which have been manufactured over the last 30 years. On both visual inspection and anthropomorphic measurement, it appears that action figures today are consistently much more muscular than their predecessors. Many modern figures display the physiques of advanced bodybuilders and some display levels of muscularity far exceeding the outer limits of actual human attainment.

These findings, however, must be interpreted cautiously for several reasons. First, we found only two lines of male human action toys which fully met our criterion of long-term documented popularity. Thus, it might be argued that these particular toy lines happened to favor our hypothesis by chance alone. However, on the basis of our discussions with action figure experts, we believe that the examples analyzed here are representative of the overall trend of body image in male action toys over the last several decades. The other leading contemporary toys, shown in Figure 4, support the impression that this trend toward a bodybuilder physique is consistent. The only notable exception to this trend is the Mattel Company's Ken, the boyfriend of Barbie. However, although the Barbie toy line



Figure 4. Left to right: The Gold Ranger, 1998 (Mighty Morphin Power Rangers; Bandai America); Ahmed Johnson, 1998 (World Wrestling Federation; JAKKS Pacific); Iron Man with Power Converter, 1998 (Avengers; Toy Biz); Batman, 1998 (Kenner); Wolverine, 1998 (X-men; Toy Biz)

overall has frequently ranked among the top 10 toy lines, Ken is but a small part of this market. Among boys in particular, Ken almost certainly ranks well below the popularity of the other male action figure discussed above (*Playthings* magazine).

Second, it is uncertain whether action toys accurately mirror trends in other media. It is our impression that comic strip characters, male models in magazines, and male motion picture actors have all shown a parallel trend toward increasing leanness and muscularity over the last several decades. However, more systematic studies will be required to confirm these observations.

Third, it is not clear to what extent these trends in toys, or parallel trends in other media, may be a cause or effect of an evolving cultural emphasis on male muscularity. Certainly, it would be premature to conclude that American men are prompted to develop disorders of body image purely as a result of boyhood exposure to muscular ideals of male physique. On the other hand, the impact of toys should not be underestimated. Male action toys as a whole accounted for \$949 million in manufacturers' shipments in 1994 alone, with action figures accounting for \$687 million of this total (*Playthings* magazine, 1995).

It should also be noted that similar theories have been advanced for many years regarding cultural ideals of thinness in women (Pope & Hudson, 1984; Cash & Pruzinsky, 1990). For example, one study found that both *Playboy* centerfold models and Miss America pageant contestants grew steadily thinner over the period of 1959 to 1978 (Garner, Garfinkel, Schwartz, & Thompson, 1980). A recent update suggests that this trend has continued at least through 1988 (Wiseman, Gray, Mosimann, & Ahrens, 1992). Similarly, in the area of toys, the literature has documented the inappropriate thinness of modern female dolls (Norton et al., 1996; Pederson & Markee, 1991; Rintala & Mustajoki, 1992; Brownell & Napolitano, 1995). Indeed, one report has found that Mattel Company's Barbie, if extrapolated to a height of 67 in., would have a waist circumference of 16 in. (Norton et al., 1996)—a figure approaching the impossibility of our male superheroes' biceps.

In any event, these striking findings suggest that further attempts should be made to

assess the relationship between cultural messages and body image disorders in both men and women.

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REFERENCES

- Action figures duke it out. (1995). *Playthings magazine*, 93, 26-28.
- Andersen, A.E. (Ed). (1990) *Males with eating disorders*. New York: Brunner Mazel.
- Brownell, K.D., & Napolitano, M.A. (1995). Distorting reality for children: Body size proportions of Barbie and Ken dolls. *International Journal of Eating Disorders*, 18, 295-298.
- Cash, T.F., & Pruzinsky, T. (Eds). (1990). *Body images: Developments, deviance, and change*. New York: Guilford.
- Drewnowski, A., & Yee, D.K. (1987). Men and body image: Are males satisfied with their body weight? *Psychosomatic Medicine*, 49, 626-634.
- Dwyer, J.T., Feldman, J.J., Seltzer, C.C., & Mayer, J. (1969). Body image in adolescents: Attitudes toward weight and perception of appearance. *American Journal of Clinical Nutrition*, 20, 1045-1056.
- Garner, D.M., Garfinkel, P.E., Schwartz, D., & Thompson, M. (1980). Cultural expectations of thinness in women. *Psychological Reports*, 47, 483-491.
- Hollander, E. (1993). Introduction. In E. Hollander, (Ed.), *Obsessive-compulsive related disorders*. Washington, DC: American Psychiatric Press.
- Hollander, E., Cohen, L.J., & Simeon, D. (1993). Body dysmorphic disorder. *Psychiatric Annals*, 23, 359-364.
- Kouri, E., Pope, H.G., Katz, D.L., & Oliva, P. (1995) Fat-free mass index in users and non-users of anabolic-androgenic steroids. *Clinical Journal of Sport Medicine*, 5, 223-228.
- Mangweth, B., Pope, H.G., Jr., Hudson, J.I., Olivardia, R., Kinzl, J., & Biebl, W. (1997). Eating disorders in Austrian men: An intra-cultural and cross-cultural comparison study. *Psychotherapy and Psychosomatics*, 66, 214-221.
- Mintz, L.B., & Betz, N.E. (1986). Sex differences in the nature, realism, and correlates of body image. *Sex Roles*, 15, 185-195.
- Norton, K.I., Olds, T.S., Olive, S., & Dank, S. (1996). Ken and Barbie at life size. *Sex Roles*, 34, 287-294.
- Olivardia, R., Pope, H.G., Jr., Mangweth, B., & Hudson, J.I. (1995). Eating disorders in college men. *American Journal of Psychiatry*, 152, 1279-1285.
- Pedersen, E.L., & Markee, N.L. (1991). Fashion dolls: Representations of ideals of beauty. *Perceptual and Motor Skills*, 73, 93-94.
- Phillips, K.A. (1991). Body dysmorphic disorder: The distress of imagined ugliness. *American Journal of Psychiatry*, 148, 1138-1149.
- Phillips, K.A. (1997). *The broken mirror*. New York: Oxford University Press.
- Phillips, K.A., McElroy, S.L., Hudson, J.I., & Pope, H.G., Jr. (1995). Body dysmorphic disorder: An obsessive-compulsive spectrum disorder, a form of affective spectrum disorder, or both? *Journal of Clinical Psychiatry*, 56 (Suppl. 4), 41-51.
- Playthings. (1983-1997). New York: Geyer-McAllister Publications, Inc.
- Pope, H.G., Jr., Gruber, A.J., Choi, P.Y., Olivardia, R., & Phillips, K.A. (1997). Muscle dysmorphia: An under-recognized form of body dysmorphic disorder. *Psychosomatics*, 38, 548-557.
- Pope, H.G., Jr., & Hudson, J.I. (1984). New hope for binge eaters: Advances in the understanding and treatment of bulimia. New York: Harper and Row.
- Pope, H.G., Jr., & Katz, D.L. (1994). Psychiatric and medical effects of anabolic-androgenic steroids: A controlled study of 160 athletes. *Archives of General Psychiatry*, 51, 375-382.
- Pope, H.G., Jr., Katz, D.L., & Hudson, J.I. (1993). Anorexia nervosa and "reverse anorexia" among 108 male bodybuilders. *Comprehensive Psychiatry*, 34, 406-409.
- Rintala, M., & Mustajoki, P. (1992). Could mannequins menstruate? *British Medical Journal*, 305, 1575-1576.
- Santelmo, V. (1997). *The complete encyclopedia to GI Joe* (2nd ed.). Iola, WI: Krause Publications.
- Schneider, J.A., & Agras, W.S. (1987). Bulimia in males: A matched comparison with females. *International Journal of Eating Disorders*, 6, 235-242.
- Wiseman, C.V., Gray, J.J., Mosimann, J.E., & Ahrens A.H. (1992). Cultural expectations of thinness: An update. *International Journal of Eating Disorders*, 11, 85-90.

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