

HOMOSEXUALITY

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IN A RECENT ARTICLE Glass, Deuel and Wright² compared androgen and estrogen analyses of urine obtained from so-called normal and homosexual males. For the homosexuals they reported androgen-estrogen ratios which they consider "significantly lower than those obtained in 31 normal males."

These conclusions are in line with wide-spread and long-standing popular opinion that homosexual behavior depends on some inherent abnormality which, since the time of the discovery of the sex hormones, is often supposed to be glandular in origin. This assumption is offered as specific explanation in some of the psychology and sociology texts, and some of the psychiatrists are treating homosexuality as an organic disease which is to be cured, if at all, by endocrinologic adjustments. Since these recently published studies are practically the first to test the validity of the current opinion, they are likely to attract some attention; and it is, therefore, desirable to examine the bases of the conclusions and, in fact, to consider the possibility of any hormonal explanation fitting the picture of homosexual behavior as it actually occurs in the human being.

The Glass-Deuel-Wright studies involved androgen and estrogen determinations of single urine samples from 31 supposedly normal males, and two to four samples from each of "17 clinically diagnosed male homosexuals." The summarized data, with some mathematical errors corrected, are as follows.

Samples	Average androgens	Average estrogens	Average of individual ratios
31 Normals	34.1	4.41	12.01
45 Homosexuals	29.9	6.72	7.87
Differences	4.2	2.31	4.14
	± 2.46 (S.E.)	± 1.08 (S.E.)	± 1.85 (S.E.)

The ratios given here represent averages of the ratios obtained from each individual urine sample. Glass, Deuel and Wright introduce an error into their

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² GLASS, S. J., H. J. DEUEL AND C. A. WRIGHT: *Endocrinology* 26: 590. 1940.

homosexual tables by computing the averages of the several ratios obtained for each individual, and then using the average of all these averages as the final figure for comparison with the normals.

It will be seen that analysis of the table above shows standard errors of such magnitude that the differences can hardly be taken to be conclusive. The samples are small, there is great variation in the samples from different individuals, and in the successive samples from the same individuals. Determinations of androgens in the homosexual group (e.g. cases 4S, 7S, 14M, 15S) showed variations of as much as 250 to 350%. Variation in successive measurements of estrogens for some of the homosexuals was as much as 300 to 2,300% (cases 3S, 5M, 6S, 7S, 8S, 9S, 10S, 14M, 15S, and 16M). One is not warranted in concluding that the relatively small differences in averages between two such small groups are significant when successive samples from single individuals show 7 to 50 times as much difference.

The published study utilized results obtained by two different methods of collection of the urine. Part of the specimens represented 2-day pooled collections (in the case of the normals) and 5-day pooled collections (for the homosexuals). Part of the samples from each group represented 7 night-and-first-morning specimens. In analyzing their material the authors pooled the results from both methods of sampling. But if the averages for each type of collection are handled separately, the record is as follows.

Samples	Average androgens	Average estrogens	Average of individual ratios
17 homosexuals: 5-day	36.95	8.37	8.44
20 normals: 2-day	34.50	4.86	10.86
Differences	2.45	3.51	-2.42
	± 3.51 (S.E.)	± 2.08 (S.E.)	± 2.59 (S.E.)
28 homosexuals: 7-night-morning	25.69	5.72	7.47
11 normals: 7-night-morning	33.43	3.61	14.10
Differences	-7.74	2.11	-6.63
	± 4.01 (S.E.)	± 2.40 (S.E.)	± 3.36 (S.E.)

By one method of sampling, the homosexual group seems to show more androgen than the normal group, by the other method of sampling there is less androgen. The methods of sampling may have had something to do with the results. In all these cases, however, the differences involve such large standard errors that little significance can be attached to the results.

FIELD DATA ON HOMOSEXUALITY

More basic than any error brought out in the analysis of the above data is the assumption that homosexuality and heterosexuality are two mutually exclusive phenomena emanating from fundamentally and, at least in some cases, inherently different types of individuals. Any classification of individuals as 'homosexuals' or 'normals' (=heterosexuals) carries that implication. It is the popular assumption and the current psychiatric assumption, and the basis for such attempts as have been made to find hormonal explanations for these divergences in human behavior. But what would a study of the phenomena themselves show? Until we know the nature of the gross behavior itself, no hormonal or other explanation is likely to fit the actuality.

Unfortunately there is a paucity of data on homosexual behavior. Our civilization so strongly condemns the behavior that scientific examination of it has hardly begun. The best of the published studies are based on the select homosexual population which is found within prisons, and it seems, heretofore, to have been impossible to discover the extent to which the phenomenon occurs in otherwise socially adjusted portions of the population. At this time, therefore, it seems appropriate to publish certain data which we have collected on homosexuality.

These data are drawn from a series of more than 1,600 histories which we have accumulated in connection with a general study on human sex behavior. Each history covers a minimum of 255 items, and many of the histories cover something more, up to as many as 495 items. All of the histories have been obtained by personal interview. We need ten thousand or more histories before we can draw definite conclusions on most of the phenomena involved. It is imperative that we have complete histories, covering all phases of each individual's sexual behavior, for our interpretation of any part of the picture is dependent upon our knowledge of its relation to the total experience of the individual. The published studies on particular aspects of human sexual behavior sometimes arrive at erroneous conclusions because they do not recognize that total behavior always involves an adjustment in which each item is affected by all of the others in the complex. Our experimentation with the sort of written questionnaire which has been the basis of most of the published studies shows that it is wholly inadequate

for discovering any item against which there are strong social taboos. Over 1,300 of the histories were obtained by the present author; 300 of them were collected by Glenn V. Ramsey, of Peoria, Illinois, whose important studies on sexual behavior at the junior and senior high school level are being coordinated with our own on the older age groups. Descriptions of the sampling methods and other techniques which are being used in this study will be given in detail at another time, in another place; but here it should be indicated that about 58% of these histories have come from college populations, the remainder from a wide variety of social levels. Over 140 American colleges and universities are represented in the series. Special effort has been made to obtain a representative sample of socially average males and females. The adequacy of the series is being tested by a series of whole samples which represent all of the individuals in particular social groups, such as fraternity and rooming houses, professional and social organizations.

Of the first 1,058 males in our series, 354 have been involved in homosexual behavior. This figure includes only those cases in which one or both parties in the relation have come to ejaculation as a result of stimulation provided by another male. There is another and highly significant group which responds to homosexual stimulation and which, in many cases, has had a considerable amount of homosexual contact, although it has not led to actual orgasm; but for the sake of the present discussion we shall confine our statements to cases which have come to full climax in the relation. This means that over 35.5% of all of the individuals in the series have had one or more homosexual experiences. The figure is a little over 30% for the college-bred portion of the series. Elaborate analyses of these data suggest that they provide a fair basis for estimating the frequency in our American population as a whole, although the validity of this conclusion can only be indicated in the present brief article by citing the figure of 27% obtained from the 329 histories which we have from our whole samples. This last figure is a bit lower than the others, probably because the whole samples are, at present, overloaded with younger ages and with college groups.

At any rate, it seems warranted to believe that something between one-quarter and one-third of all the males in any mixed-aged group has had some homosexual experience.

But, in the course of a lifetime, it is probable that 50% or more of the male population will become involved in homosexuality. In support of this generalization we present the record on the age groups for which we have 50 or more histories per group. The less adequate data which we have for other ages indicate that there may be some further rise in the figures

for the older groups. The figures for the younger groups are summarized in table 1. The figures for the "total adolescent population" represent the total

TABLE 1. 1,058 MALES, PERCENTAGE WITH SOME HOMOSEXUAL EXPERIENCE

Age group	Entire series		College population		Whole samples	
	Total adolescent population	With homosexual experience	Total adolescent population	With homosexual experience	Total adolescent population	With homosexual experience
10	22	9.1	—	—	7	14.3
11	132	16.7	80	15.0	52	17.3
12	445	16.6	273	16.1	161	19.3
13	765	19.2	505	16.2	241	22.4
14	909	23.6	675	19.7	236	22.5
15	883	26.4	699	21.9	214	23.3
16	857	29.1	710	24.5	209	24.4
17	836	29.4	712	25.5	208	24.5
18	805	30.7	709	26.9	205	25.8
19	726	32.1	653	28.5	166	28.3
20	627	32.7	565	29.2	111	28.8
21	520	33.1	465	29.2	80	27.5
22	375	33.9	328	29.3		
23	279	38.0	237	32.9		
24	208	40.8	175	35.4		
25	168	45.8	140	41.4		
26	139	46.0	113	41.6		
27	108	45.4	85	41.2		
28	85	49.5	65	46.2		
29	74	48.7	55	43.6		
30	61	49.2				
31	52	50.0				

number of individuals in our series who were adolescent as they passed through each age group, up to the

The data given above are summarized in figure 1. It will be seen that the whole-sample curve closely coincides with the curve for the college series from which the whole samples were largely derived.

In brief, homosexuality is not the rare phenomenon which it is ordinarily considered to be, but a type of behavior which ultimately may involve as much as half of the whole male population. Any hormonal or other explanation of the phenomenon must take this into account. Any use of so-called normals as controls, in the way in which Glass, Deuel and Wright used them in their measurements, should allow for the possibility that a quarter to a half of these 'normals' may in actuality have had homosexual experience at some time in their lives; and, as we shall show further along, it must similarly be recognized that there are very few 'homosexuals' who have not had at least some, and in many cases a great deal of heterosexual experience.

It is true that many of the individuals in these tabulations have had only a very small amount of homosexual experience incidental to their other sexual activities, while others have had thousands of contacts and exclusively homosexual histories for long periods of their lives. The higher figures come, of course, from older, professional homosexuals who are making daily contacts, and who are regularly capable of repeated climax in a single 24-hour period. The literature constantly makes a sharp distinction between incidental and exclusively homosexual experience, between so-called 'acquired, latent and con-

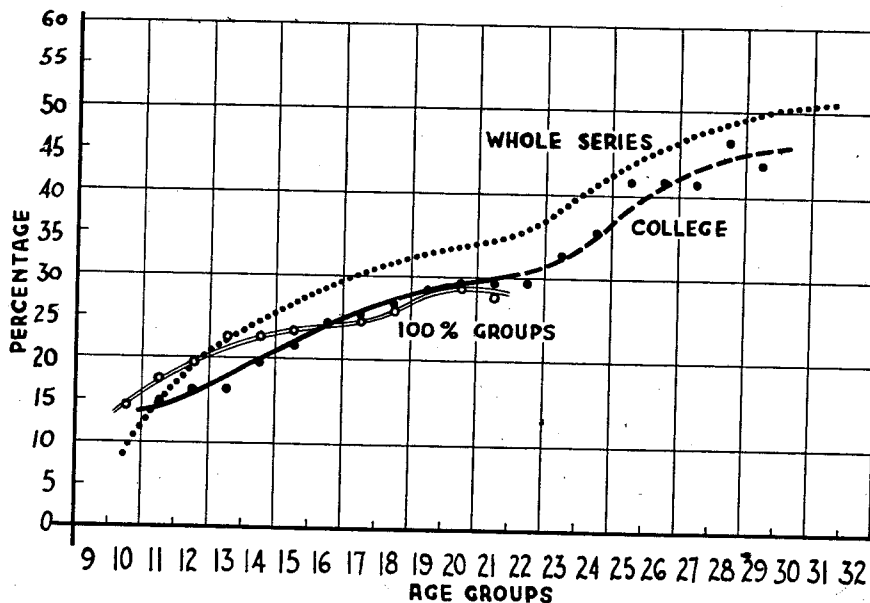


Fig. 1. ACCUMULATIVE CURVE OF INCIDENCE OF HOMOSEXUAL EXPERIENCE. At successive age groups in 1058 males.

age at which the history was reported. The columns marked "with homosexual experience" show the percentage in each age group which has made homosexual contact at any time prior to the date of reporting.

genital (constitutional) homosexuality, and between 'true invert' and 'normals.' But although we have more detailed data on a larger number of cases than are recorded in any of the published studies, we fail

to find any basis for recognizing discrete types of homosexual behavior. An analysis on any basis will show every type of intergradation between the extreme cases in our series. There are individuals who have had a lone and more or less accidental experience; there are cases which have had as many as fifteen or twenty thousand homosexual contacts (cases 2777, 6341); but between these individuals there are cases which involve all points between one and twenty thousand. There are cases which have confined their homosexuality to a single male partner; in our series there are cases of single males (e.g. cases 1439, 2777, 4340, 6341, 7434, 7527, 8360) who have contacted from 1,000 to 15,000 other males. There are cases which began in pre-adolescent sex play, and cases (0182, 5102, x8661) which did not begin until

single period of the history, there are cases where it has been discontinuous with breaks of anything up to 34 years between the periods of participation. A popular opinion bases a classification on the technics involved in the physical relation, and makes a sharp distinction between the so-called active and passive partners in the relation. Many of the so-called 'passives' regularly show that they can respond to homosexual stimulation by coming to climax in the relation. There are popular and even clinical concepts of physical stigmata which are attached to the homosexual; and although there are some 'homosexuals' which show what are popularly considered to be 'effeminate' characteristics, there are others that are physically as robust and as athletically active as the most 'masculine' of men. There are, in short, intergradations be-

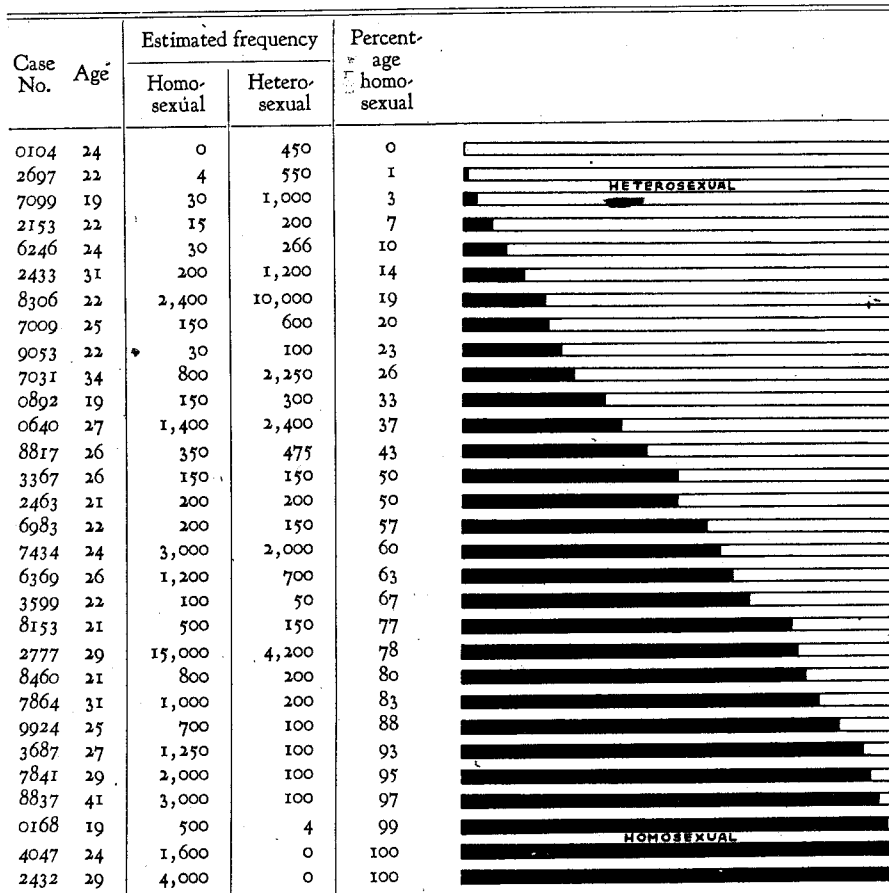


Fig. 2. COMBINATIONS OF HETEROSEXUAL-HOMOSEXUAL EXPERIENCE. Showing every gradation between exclusively heterosexual and exclusively homosexual experience in a selected series of 30 males.

after 30 or 40 years of age. We have cases where the homosexuality was confined to a small portion of the life span, a case (4340) where it has extended over 60 years of the life span, and other cases which show it extending through periods of every intermediate length. The homosexual may be confined to early or late adolescence, or to the third, or the fourth, or perhaps later decade of life. There are cases in which the homosexual activity was continuous throughout a

tween all of these types, whatever the items by which they are classified.

In this paper, only a single instance of intergradation can be presented in more detail. This involves the proportion in which the homosexual and the heterosexual fit into the life of a single individual. For while there are individuals who are exclusively heterosexual, or exclusively homosexual, there are many who carry on both types of activity, sometimes suc-

cessively at different periods in their lives, more often simultaneously in a single period of the life span. This is illustrated by the series of 30 cases shown in figure 2. The chart is based on the percentage frequency of orgasm (actual ejaculation) inspired by human social contacts (in distinction to such auto-sexual outlets as masturbation and nocturnal emissions). It includes cases in which the homosexual has provided only a small proportion of the outlet, cases in which the homosexual and heterosexual have contributed more or less equally to the picture, cases in which the homosexual has provided the whole of the socialized outlet, and every type of case between the extremes. It will be seen that one of the most actively homosexual cases in the series (*case 2777*) is a male with some 15,000 male contacts, and a concurrent heterosexual element which includes intercourse an estimated four or five thousand times.

The curves showing the frequencies in these various types of the heterosexual-homosexual balance are different for various age groups in our series. In general, cases in which the heterosexual-homosexual ratio is near 50:50 are more abundant in the earlier age groups; those in which the homosexual or heterosexual are more nearly exclusive are more frequent in the older groups. There is evidence that the transformation to the more frequently exclusive pattern of the older individuals is partly the result of psychic conditioning, partly the result of social pressure which fixes the heterosexual by custom and by law, but which as effectively fixes the homosexual by ostracizing the individual who departs from the accepted mores. We are particularly indebted to the Ramsey series of histories for the interesting material on the younger age groups. The detailed record back of these generalizations must be published elsewhere.

It should be more generally understood that there are many cases of individuals who regularly include both the heterosexual and the homosexual among their activities in the course of any month, week, or day. We have cases (e.g. 2777, 4651, 6341, 8306) in which both types of contacts were successfully made in the course of a single hour.

Finally, it must be realized that an exclusively homosexual or exclusively heterosexual pattern may be replaced at a later period in the life of a single individual by more or less exclusive activity in the other direction. Of the first 108 individuals in our series who have had more than 100 homosexual contacts each, 55 (= 51.%) have made distinctly successful heterosexual adjustments. There are two cases of males (*cases 3063, 8360*) who had had 15 and 17 years of almost exclusively homosexual experience, who at ages 30 and 28 (respectively) began practically exclusive heterosexual activities which involved intercourse 3 to 7 times per week. On the other hand, we have a few cases (e.g. males 7504, 8425, 9957, females 0632, 2302, 4541, 6367) in which exclusively heterosexual activities were abandoned within a brief span

of time for more or less exclusively homosexual activities.

Throughout the case histories, the circumstances of the first sexual experience, psychic conditioning, and social pressures are obvious factors in determining the pattern of the behavior. It would appear that no similar correlation has as yet been shown between hormones and homosexual activity. It is, of course, not impossible that endocrines are involved; but in order to demonstrate that, it would be necessary to show a correlative variation in hormones and behavior which includes such gradations, combined patterns, and changes of pattern as have been described here.

SUMMARY

Glass, Deuel and Wright report androgen content and androgen-estrogen ratios in male homosexuals which are lower than those in a 'normal' control group. Their conclusions are invalidated by the small size of their series, by the great variation shown among the individuals in the series and in successive samples from single individuals, and by the contradictory results which were obtained by the two different technics of securing urine samples.

Any hormonal or other explanation of the homosexual must allow for the fact that something between a quarter and a half of all males have demonstrated their capacity to respond to homosexual stimuli; that the picture is one of endless intergradation between every combination of homosexuality and heterosexuality; that it is impossible to distinguish so-called acquired, latent, and congenital types; and that there is every gradation between so-called actives and passives in a homosexual relation.

Any hormonal or other explanation of the homosexual must allow for the fact that both homosexual and heterosexual activities may occur coincidentally in a single period in the life of a single individual; and that exclusive activities of any one type may be exchanged, in the brief span of a few days or a few weeks, for an exclusive pattern of the other type, or into a combination pattern which embraces the two types.

Any explanation of the homosexual must recognize that a large portion of the younger adolescents demonstrates the capacity to react to both homosexual and heterosexual stimuli; that there is a fair number of adults who show this same capacity; and that there is only a gradual development of the exclusively homosexual or exclusively heterosexual patterns which predominate among older adults.

The Administration and the Dean of the Graduate School of Indiana University are responsible for a part of the financial support of these studies. Glenn V. Ramsey, Boys Health Director in a high school at Peoria, Illinois, secured the very important series of histories which we have on the youngest age groups. Clyde E. Martin is responsible for the intelligent and careful handling of our files and for the extensive computations which have been involved in the analyses of the data. My wife, Clara McMillen Kinsey, has materially contributed to our interpretations of the case histories and their objective treatment in this study.